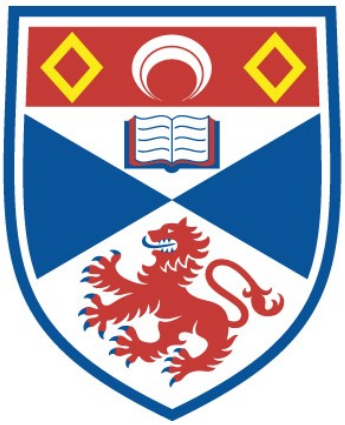
REMEMBERING DREAMS

Michael Robertson

A Thesis Submitted for the Degree of PhD
at the
University of St Andrews



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ABSTRACT

This thesis concludes that our commonplace conviction that dreams are dreamt during sleep and remembered or forgotten upon waking is, at best, a speculative hypothesis open to a very reasonable scepticism. The conclusion follows from a defence of the Dispositional Analysis, that to remember or forget a dream is to retain or lose an ability acquired during sleep to tell without invention or inference a fictitious story as if of events witnessed and deeds done. According to the Dispositional Analysis everyday talk about dreams being dreamt during sleep stands open to contradiction by empirical evidence supporting Globot's Hypothesis that the content of our awakening narratives is explained by peculiarities in the manner of awakening. According to the Dispositional Analysis, our ordinary assumption that 'telling a dream' is an exercise of memory can only be tested within a theory enabling us to predict whilst a person is asleep what, if any, dream he would tell, if awoken in a normal manner, prompted to say what appears to have happened (no matter how incredible or unimaginable), and not distracted.

Chapter One ("Events Witnessed and Deeds Done") argues that sober reflection on what we already know shows that, in 'telling a dream', a person usually does not remember perceptions and actions from sleep. In Chapter Two ("The Unimagined and Unimaginable") argues that the ability to tell a dream cannot be reduced to memory of thoughts and intentions directed towards images. The conclusion drawn from Part One (What Appears To Be Remembered) is not merely that there is no general account of what dreaming consist in, as if the fact that we do not remember illusory perceptions, thoughts or images shows that we do remember something else, some irreducible mental activity. The conclusion is that when we 'remember dreams' we generally remember nothing of what happened during sleep.

Chapter Three ("'Actions' During Sleep") argues that the scientific study of sleepwalking, sleeptalking, night terrors, prearranged 'signalling' during sleep fail to support the hypothesis that a person rememberes thoughts and intentions from sleep. Chapter Four ("'Perceptions During Sleep"), it is argued that neither evidence of physiological activity peripheral to the central nervous system (e.g. eye movements, muscular twitches, penes erections, etc.) interpreted as 'covert behaviour' during sleep, nor evidence of neurological activity of the forebrain interpreted as critical responses to internally generated 'stimuli' supports the Received Opinion that dreams are episodes remembered from sleep. Part Two ("Scientific Studies of Sleep and Dreaming"), concludes that experimental sleep research is consistent with the conclusion that a person telling a dream is typically not remembering mental acts, events, states or processes from sleep.

Part Three ("The Dispositional Analysis") questions the implications of the conclusion that the Received Opinion is false. Chapter Five ("Dreaming Without Experience") argues that our conviction that dreams are dreamt or 'occur' during sleep is an empirical hypothesis which survives the falsification of the Received Opinion. The conclusion drawn here departs both from that of Malcolm's (1959) argument that the concept of dreaming is not a theoretical concept and from that of Squires' (1973) argument that dreaming is a bad theoretical concept. Chapter Six, argues that assumptions about the causal explanation of telling a dream whilst central to our talk about dreams being dreamt or occurring during sleep cannot not explain our commonplace conviction that dreams are *remembered* from sleep. In particular, it is argued against Dennett (1976) that a causal-cum-representational analysis of remembering dreams does not escape the need to distinguish between the everyday notion of memory appropriate to retaining an ability to tell a dream and a technical notion of storage in short-term 'memory'.

The Conclusion ("A Truth of Underwhelming Importance?") reflects upon the gap forced by the thesis between the unreasoning confidence of our awakening conviction that dreams are remembered from sleep and the speculative justification accorded to it by the Dispositional Analysis. It recommends an uneasy resignation to the conclusion that our undoubting faith that something is remembered reduces to nothing more substantial than the hypothesis that 'telling a dream' is the exercise of an unconsciously acquired and retained disposition to awake with a merely apparent memory of episodes occurring during sleep.

DECLARATIONS

Candidates Declaration

This thesis has been composed by myself, it is a record of my study in the Department of Logic and Metaphysics at the University of St. Andrews under the supervision of Mr. Roger Squires, and it has not previously been presented for a higher degree.

Michael Robertson
30thSept.1993

Research Supervisor's Declaration

The candidate, Michael Robertson, has fulfilled the conditions of the Resolution and Regulations of the University of St. Andrews appropriate to the degree of Ph.D.

Roger Squires
30thSept.1993

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Michael Robertson
30thSept.1993

ACKNOWLEDGMENTS

My debts to the late Norman Malcolm's work on dreams are too numerous to be duly credited in the text. After all, he set the ball rolling, even though it promptly got bogged down in the 1960s by fashionable worries about verificationism. The general strategy of my argument owes much to Daniel Dennett writings in the philosophy of mind. The negative arguments against the Received Opinion, especially those of Chapter One, borrow heavily from Squires (1973). He got the germ of some of them from MacDonald (1953) who probably learned a deal from her research supervisor, Ryle, who I'm told wouldn't publicly admit to the conclusions himself! However, as my own supervisor remarked, "There aren't all that many good arguments around in philosophy, and people tend to forget them pretty quick, so you've got to keep re-using the old arguments. Just try to make it look as if you're doing something new with them!". The dispositional analysis of dreaming I defend has been variously anticipated, perhaps most clearly by Mannison (1976). But he did not offer a complementary account of 'remembering' dreams dreamt. So, I think I've put together something a little bit different.

'Writing up' this thesis (a curious expression, as if one had a clue about what one thinks before writing it down!) has had many false starts. The hard-disk is of my word-process is bursting with discarded attempts, each a last-minute response to some new deadline. This 'final' version comes too with all the hallmarks of a rushed job. Funny, after six years in the pot. It is said that someone in a tight spot should always seek the consolation of finding someone else to blame. Several people have recently given me the same advice, "Just relax, Michael, its only a Ph.D. thesis". Unbelievingly, I have taken this advice to heart, sometimes with a religious intensity. I blame them all for the result. They know who I mean!

Special thanks are due to my supervisor, Roger Squires. His encouragement has been muted by the fact that I agreed too much with him on the topic, but it was always there when needed. Crispin Wright, the supervisor of my M.Phil., has also shown enthusiasm over the years, regarding dreams as an interesting example of a 'response-dependent' subject-matter. The extent to which I have tried *and failed* to place dreaming in the context of his various attempts (see Wright (1992) Appendix on 'Order of Determination and Response-Dependence') to structure debates about these issues is not reflected in the present text.

Fellow students keep one afloat more consistently than staff: Marguerite, Bernhard, Catherine and Jeri have been my water-wings.

DEDICATION

For Derek

CAUTIONARY QUOTATION

"A person in the witness box says: 'Just as I entered the room, I saw the accused raising the gun, pointing it at the victim, and shooting him dead. The whole scene is clearly before my eyes; I doubt that I will ever forget it.' The witness knows that his memory is true, indeed, he is absolutely convinced of it. The strong feeling of the veridicality of the memory somehow is immediately given in the recollective experience [and] need not be inferable from other knowledge. The basis of such a belief is a deep mystery ...

When others tell us that something is wrong, we may be persuaded by evidence that speaks to the issue ... [but] our subjective feeling of veridicality of the recollective experience remains unchanged even when we intentionally accept the verdict of others."

(Endel Tulving *Elements of Episodic Memory* 1987 p.40)

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INTRODUCTION

AWAKENING CERTAINTY & EMPIRICAL THEORY

1. I defend the thesis that our commonplace conviction that dreams are dreamt during sleep and remembered or forgotten upon waking is, at best, a speculative hypothesis open to a very reasonable scepticism, notwithstanding our apparent inability, in the context of awakening with a dream to tell, to doubt that something is remembered.

2. The thesis follows from the Dispositional Analysis, that to remember a dream is to have acquired during sleep and not lost an ability to tell without invention or inference a story as if of events witnessed and deeds done which is not a memory of waking life, if awoken, prompted and not distracted, and given that there is a 'normal' manner of awakening such that the content of the story told is causally determined by events occurring during sleep.

I defend the conclusion that to remember or forget a dream is to retain or lose an ability acquired during sleep to tell a story upon awakening as if of events witnessed and deeds done which is not a memory of waking life. It follows that our commonplace conviction that dreams are remembered (and sometimes forgotten) from sleep is not justified by evidence presently available to us. For, according to the Dispositional Analysis, the truth of the hypothesis that a person had a certain dream during sleep can only be tested within a theory enabling us to predict whilst a person is asleep what, if any, dream he would tell, if awoken in a normal manner, prompted to say what appears to have happened (no matter how incredible or unimaginable), and not distracted. No such theory is at hand. It remains a long-term ambition of psycho-

physiological research to justify content-relative inferences between bodily movements during sleep and awakening narratives, thus establishing generalities about the circumstances under which a disposition to tell this or that dream is acquired, lost or retained during sleep. But, as things stand, the proposition that something is remembered from sleep in the usual case of awakening to 'tell a dream' is not a matter of common sense nor of established scientific fact. It is a speculative hypothesis open to a very reasonable scepticism.

The defence of the Dispositional Analysis is shown by the following scheme of argument:

SCHEME OF ARGUMENT

1. It is preferable that our conviction that dreams are dreamt during sleep and remembered or forgotten upon awakening be taken as a speculative hypothesis yet to be confirmed or disconfirmed by future scientific research than that it be taken to be an hypothesis for which we already have sufficient evidence, where what evidence we already have, if sufficient to pass judgment, would render our conviction false.

2. The Received Opinion that dreams are perceptions, thoughts, images, or some such mental acts or events occurring during sleep is false judged by what we already know about sleeping and waking, and we know pretty much all about sleeping and waking that is relevant.

3. It is preferable that our conviction that dreams are dreamt during sleep and remembered or forgotten upon awakening be understood as a speculative hypothesis open to future scientific investigation than that it be 'saved' from possible disconfirmation by being rendered empirically empty.

4. According to the Reductive Analysis, to say that a person 'remembers' a dream from sleep does not strictly speaking imply that he remembers anything;

it is simply a metaphorical way of saying that he has an apparent memory of events upon awakening which is not a memory of waking life.

5. The Causal Hypothesis, that 'telling a dream' is typically caused by brain processes similar to those which explain a witnesses' report of what he recently saw and did, is a speculation one might reasonably make in virtue of the programme of scientific research suggested by it, though we are not entitled to assert it with any confidence on the basis of evidence presently available.

6. It is better that our conviction that dreams are remembered from sleep be taken to imply the Causal Hypothesis than it be taken to imply the Received Opinion.

7. It is better that our conviction that dreams are remembered from sleep be taken to imply the Causal Hypothesis than that it be rendered trivially true by the Reductive Analysis.

8. Scientific confirmation of the Causal Hypothesis would not confirm the Received Opinion, for it is neither a necessary nor a sufficient condition of 'remembering' in everyday discourse that a person's words or actions have a certain causal explanation; at most it would show that our dispositions to apparent memories if awoken are acquired and retained with an order, pace and duration analogous to the acquisition and retention of a witnesses ability to report events perceived.

9. Additional confirmation of the Representational Hypothesis, that a person's description of his dreams corresponds to a brain structure realised during sleep in virtue of common representational qualities, would not confirm the Received Opinion for it is neither a necessary nor a sufficient condition of 'remembering' in everyday discourse that a person's words or actions correspond to some structure in his brain process in virtue of its representational qualities; it would not show that a person knew (was aware of, conscious of, experienced,

or represented to himself) his brain structure under the interpretation given to it by cognitive scientists.

10. Scientific confirmation of the Causal Hypothesis *would* show that something, namely, the ability to tell a dream, is remembered from sleep; for it is a sufficient condition of 'remembering' in everyday discourse that a person exhibit a know-how previously acquired and not lost.

11. Our conviction that dreams are dreamt during sleep is best understood as the speculative hypothesis that 'telling a dream' is typically the exercise of a capacity to tell without invention a particular story as if of events witnessed and deeds done (no matter how improbable or impossible), a story which is not a memory of waking life and need not be a memory of occurrences during sleep, but the capacity to tell that story rather than another having been acquired during sleep and not lost.

3. The Dispositional Analysis is preferable to an analysis of dreaming which implies the Received Opinion (that dreams are perceptions, thoughts, images, sensations, or some such mental acts or events) for the Received Opinion is empirically false.

In the Investigations, Wittgenstein questioned whether our undoubting acceptance of a person's awakening narrative as if of events witnessed and deeds done as a true description of his dreams implies that the dreamer is genuinely remembering what he seemed to see and tried to do during sleep. Wittgenstein's rhetorical suggestion was that our everyday narratives of dreams are logically independent of the hypothesis that, in 'telling a dream', a person is remembering perceptions, thoughts, images, sensations, or some such mental acts or events, occurring during sleep. What is it that a person undoubtingly accepts when he awakes with a vivid impression as if of events

recently witnessed and deeds recently done and supposes that he is not remembering episodes from waking life? I assume that a person awakening with a dream to tell is confident that something ('a dream') is remembered from sleep. I assume that the confidence of his conviction has a psychological explanation in the vividness of our awakening impressions and our natural inclination to relate a narrative in the past tense. And I assume that this confidence may, in the context of awakening with a dream to tell, be unshakeable by rational argument. But I take it to be open whether, in telling a dream, a person implies that what is remembered ('dreams') are events which happened during sleep. That is, I take it to be open whether the Received Opinion is essential to our conviction that dreams are dreamt during sleep and remembered or forgotten upon awakening.

How is it to be decided whether or not our commonplace conviction that dreams are remembered from sleep implies that dreams are perceptions, thoughts, images or any other mental act or event? In contradiction of Malcolm (1959) I suppose that whether our commonplace conviction that dreams are remembered from sleep implies the Received Opinion cannot be decided independently of the empirical question about what, if anything, we remember in circumstances in which we undoubtingly assert 'X remembers dreaming p'. Malcolm argued that our commonplace convictions about dreaming *cannot* imply that dreams are perceptions, thoughts, images or anything else (except dreams) occurring during sleep because it is neither a logical truth nor an empirical hypothesis that dreams are perceptions, thoughts, etc. It is not an empirical hypothesis because, Malcolm claimed, in paradigm uses of sentences of the form 'X dreamt p' (that is. where X was sound asleep, sincerely related a narrative as if of events witnessed and deeds done without invention, and is not remembering episodes from waking life), there are no possible observations

which we would commonly take to establish with certainty that X perceived, thought, imagined (here one may insert any mental verb except 'dreamt') p during sleep.

I agree with Malcolm that sleep is ordinarily sound. A person asleep is usually indisposed to do or say anything unless awoken. This is an obvious fact. I agree with Malcolm that behavioural evidence that a person was inert and unresponsive is sufficient to render doubtful the hypothesis that he seemed to see, tried to do, thought or imagined anything corresponding to the events witnessed and deeds done ostensibly referred to in a typical dream narrative. This is an inference of a kind commonly drawn without hesitation in everyday life. It follows that anyone who takes a person's narrative to be an ordinary case of telling a dream cannot consistently assert that it is *certain* that the dreamer is remembering episodes from sleep. The fact that an undoubting faith in the Received Opinion would be unreasonable gives a good (though admittedly insufficient) reason to distinguish our confident conviction that dreams are remembered from the Received Opinion. But this is not Malcolm's central line of argument. His central argument relies upon the principle that every assertoric sentence expresses either a logical truth (accepted without doubt or justification by anyone who understands the language) or an empirical hypothesis verifiable in circumstances presupposed in its ordinary use. His reliance upon this principle is regrettable. For philosophical interest in dreaming generated by Malcolm's elaboration of Wittgenstein's remarks all but burnt itself out in the (no doubt very worthy) task of establishing that this principle is unsound.

My insistence that it is an empirical matter what happens during sleep and whether any of it is remembered owes much to Squires' (1973) attempt to renew an attack on the Received Opinion which duly grants the success of Putnam's

(1962a) refutation of Malcolm's verificationism. As I understand it, the Received Opinion is the empirical hypothesis that in the circumstances in which we undoubtingly assert 'X remembers a dream' it is (coincidentally) true that X remembers perceptions, thoughts, images or some such mental acts or events occurring during sleep. I follow Putnam and Squires in supposing that this hypothesis may be true or false independently of whether it is fundamental to our ordinary concept of dreaming. It is possible that, as Squires argued, the Received Opinion is both central to the ordinary concept of dreaming and false. Thus, in line with Putnam and Squires, I reject Malcolm's supposition that where a sentence is used in ordinary circumstances and where there is observable evidence of a kind we commonly accept to establish its truth with certainty it cannot be intelligibly questioned whether that sentence is true. It is possible that what we commonly take to be certain beyond doubt or question, namely, that dreams are dreamt during sleep and remembered or forgotten upon awakening, may be discovered false.

However, I do not follow Putnam and Squires in supposing that our ordinary conviction that dreams are dreamt during sleep and remembered or forgotten upon awakening is equivalent to the Received Opinion. If it were shown both that ordinary talk about dreaming is compatible with the conclusion that the Received Opinion is false and that belief in the Received Opinion is manifestly inconsistent with what we already know, there may be reason to conclude that ordinary talk about dreaming does not, despite superficial appearances to the contrary, entail that the Received Opinion is true.

I suppose that, if we were to persist in our confident conviction that dreams are remembered from sleep, in the face of evidence disconfirming the hypothesis that dreams are episodes occurring during sleep, it would be charitable to suppose that our persistent conviction did not imply the Received

Opinion. And I suppose that the best way to test how we would talk about dreams if we did not believe the Received Opinion is to take seriously the empirical evidence already available to us that nothing, or nothing much, of what happens during sleep is remembered by us upon awakening. As someone who has taken such evidence very much to heart, I'll hazard the prediction that ordinary habits of talk would not undergo a radical change if it were widely recognised that the Received Opinion is false. This does not, in itself, confirm Wittgenstein's suggestion that the Received Opinion is marginal to our concept of dreaming as it presently exists. As Putnam (1962a) noted, a continuity in our habits of speech may superficially disguise the passing of familiar idioms about dreaming from living theory into a mere figures of speech. But, even on Putnam and Squires' assumption that the Received Opinion is fundamental to ordinary talk, taking seriously the possibility that it is false provides a powerful motive to look for a revisionary analysis. Such an analysis might be recommended as a change in meaning or it might be presented as a pragmatic justification of what was and will continue to be a 'strictly speaking' erroneous manner of speech.

The discovery that the Received Opinion is false, together with the fact that we could quite reasonably continue to talk about dreaming much as we do now if it were false, would not, of itself, show that the Received Opinion is marginal to our ordinary concept. However, were it to be shown that the Received Opinion is, not merely false, but false by consistent application of our everyday theories about beliefs, intentions, thoughts, images and so on, to familiar facts about what people appear to remember upon awakening and about what happened whilst they slept, I think that there would be grounds for the charitable conclusion that the Received Opinion is not implicit in our

present conviction that dreams are dreamt during sleep and remembered or forgotten upon awakening.

I believe that such an argument can be given. Its elements are found in the essays of MacDonald (1953), Malcolm (1959), Squires (1973), Mannison (1975) (1977), Hunter (1976) and Shaffer (1984) among others. The primary aim of these writers, with the exception of Squires and, possibly, Mannison (1975), was to argue that the ordinary concept of dreaming is distinct from that of any mental phenomenon found in waking life. The arguments employed to this end may be reconstructed to take the form of a reductio of the assumption that the Received Opinion is implicit in the ordinary concept of dreaming, showing that *if* we assumed the Received Opinion to be true, that assumption would be inconsistent with the bulk of our beliefs about the mental. It is the fact that, notwithstanding our readiness to assent to the Received Opinion, it is inconsistent with what we generally believe, that shows that it is both false and peripheral to the ordinary concept of dreaming.

Squires departed from MacDonald and Malcolm in conducting the argument against the Received Opinion on the assumption that it is central to the ordinary concept. He did not explicitly regard his argument as a reductio, the conclusion calling into question his assumption that the Received Opinion is fundamental to everyday talk about dreaming. Presumably, he did not draw this conclusion because, firstly, he remained unconvinced by Malcolm's attempt to 'save' ordinary talk from empirical disconfirmation and, secondly, he saw no alternative justification of our ordinary conviction that dreams are remembered than that offered by the Received Opinion. In my view this was a more resolute course than that taken by Shaffer (1984) who, having concluded that the Received Opinion is false, failed to say either what alternative assumption justifies our conviction that dreams are remembered from sleep, or

why, in the peculiar case of 'remembering dreams', justification is not required. However, it seems to me that an alternative justification of that conviction is illuminated by the Dispositional Analysis.

I am inclined to follow Wittgenstein's suggestion that the Received Opinion is logically independent of our conviction that dreams are remembered from sleep. But I am happy to agree with Squires that, if our common awakening conviction that something is remembered amounts to a belief in the Received Opinion, then the natural phenomenon of awakening with a dream to tell is a source of error and illusion against which we should take precautions (e.g. REM deprivation drugs) unless, as is very likely, the instrumental benefits (e.g. the fun and fascination) of awakening with apparitions of remembering events from sleep outweighs its unavoidable harms. These days one may be forgiven for taking a somewhat fuzzy view of the border between a descriptive analysis of the ordinary concept of dreaming and a revisionary modification of the concept rendering it coherent with the totality of our linguistic practices. So I prefer to state my case for the Dispositional Analysis a little circumspectly. Given that the Dispositional Analysis is preferable to either the Reductive Analysis or the Causal-cum-Representational Analyses, my conclusion is that *either* ordinary talk of dreams implies the Received Opinion and should be re-interpreted according to the Dispositional Analysis *or* ordinary talk of dreams does not imply the Received Opinion and is correctly interpreted according to the Dispositional Analysis. In short, the Dispositional Analysis represents 'the best' interpretation of ordinary talk about dreaming.

4. The Dispositional Analysis is preferable to the Reductive Analyses (that to 'remember a dream from sleep' is simply to have an apparent memory of events

upon awakening which is not a memory of waking life) for the Reductive Analysis 'saves' our conviction that dreams are dreamt during sleep and remembered or forgotten upon awakening from the conclusion that the Received Opinion is false only by rendering it empirically empty.

Malcolm (1959) argued that a dream is what a person appears to remember upon awakening where he is not remembering perceptions, thoughts, sensations or anything else *except dreams*. The appeal of Malcolm's analysis is that it seems to offer a means of capturing the idea that a person has privileged authority about his dreams whilst resisting the temptation to explain that authority in terms of an infallible mechanism of introspection. Unfortunately, Malcolm's contention that 'telling a dream' is logically prior to dreaming can only be reconciled with our conviction that dreams are remembered from sleep at the price of allowing that, in this context, 'remembering' has a special sense distinct from the usual concept of memory, a sense in which the demand for justification is uniquely 'inappropriate'. Squires (1973) correctly distinguished the strengths and the weaknesses of Malcolm's analysis. He saw that the identification of dreams with what a person appears to remember upon awakening where he is not remembering waking episodes might save our narratives of dreams from the discovery that the Received Opinion is false. But he also saw that Malcolm's analysis offers no defence of our ordinary conviction that dreams are dreamt during sleep and remembered or forgotten upon awakening. Strictly speaking, dreams are not dreamt during sleep, they are only 'remembered' upon awakening. What we call 'remembering a dream' is, in the usual sense of the verb, remembering nothing. It is to have a merely apparent memory upon awakening.

The Reductive Analysis is, in itself, an incomplete account of the ordinary concept of dreaming for it gives no account of talk about dreams occurring at

particular times within a period of sleep nor of dreams that are forgotten during sleep. The Dispositional Analysis may be regarded as an elaboration of Reductive Analysis in that it retains the identification of the content of a person's dream with the content of his apparent memory on awakening, where he is questioned or otherwise prompted to try to remember events recently witnessed and is not distracted. But, in adding to the Reductive Analysis an account of what it is for a dream to be dreamt at a particular time within a period of sleep and to be remembered or forgotten upon awakening, the Dispositional Analysis introduces a theoretical assumption about the causal explanation of those among our apparent memories whose content is a dream. According to the Dispositional Analysis, our conviction that dreams are dreamt during sleep, that dreams are uniquely identifiable by the dreamer and time dreamt, implies the assumption that what dream a person would tell 'if awoken' is determined prior to and independently of the contingencies of the process of awakening. The Dispositional Analysis offers an account of the dreaming or occurrence of a dream as the acquisition of a disposition to appear to remember events, if awoken in a manner which is both normal and has no significant effect upon what a person appears to remember, where he is questioned or otherwise prompted to try to remember events recently witnessed (no matter how incredible or unimaginable) and not distracted.

It is sometimes said that any theory, however unwarranted by the evidence we have, is preferable to none. I suppose I must appeal to this principle in preferring the Dispositional to the Reductive Analysis. Even so, I admit to having at times been puzzled by the credence this saying enjoys. The justice of this principle lies, I suppose, in the virtue of our words and thoughts having a practical value in guiding actions. There would be no charity about inferring the Dispositional Hypothesis (that telling a dream is typically the exercise of

a disposition, acquired during sleep and not lost, to express a particular apparent memory upon awakening) into ordinary talk about dreams if it were an idle speculation disconnected from any foreseeable investigations and experiments. As I defend it, the Dispositional Analysis shares the advantage claimed for the Causal Hypotheses of anticipating a practical project of experimental research. According to the Dispositional Analysis, our conviction that dreams are remembered from sleep is not merely an idle speculation for, I argue, it is central to psycho-physiological sleep-research.

Whether dreams told are dreams which would have been told if one had been awoken a moment earlier in a normal or standard manner is a hypothesis for which ordinary experience provides no evidence. For a brief period, in the late fifties and early sixties, it looked as if psycho-physiological research was beginning to establish correlations of some specificity between types of physiological phenomenon and types of dream narratives a person would tell if immediately awoken. The assumption that dreaming and waking perception correlate to common physiological processes was, and by and large remains, central to this research. Sadly, the promise of a theory enabling us to infer from physiological phenomenathe acquisition of a disposition to tell a certain kind of dream has gone unfulfilled.

Strictly speaking, the Dispositional Hypothesis, that telling a dream is typically the exercise of a disposition acquired during sleep and not lost, is not equivalent to the Causal Hypothesis. We could construe ordinary talk of dreaming narrowly to imply only the Dispositional Hypothesis. In which case ordinary talk of dreaming would not imply that dreams are dreamt with an order and pace analogous to waking experience. Dreams might be dreamt 'in a flash'. But it remains that the only kind of systematic 'do-able' experimental work in view is tied to the analogy between dreaming and perceiving, and that

other possible means of charting the acquisition, retention and loss of dispositions to tell dreams are undirected stabs in the dark.

A pessimistic view of the prospects for the Causal Hypothesis may lead one to reflect that, perhaps, it is better we should be making idle speculations incapable of guiding a systematic research programme than that we should imply an analogical model the scientific value of which, whilst unrivalled, looks to be pretty well exhausted. But, if that were the case, it seems to me that the Dispositional Analysis would have no advantage over the Reductive Analysis of 'remembering dreams'. In rejecting Malcolm's verificationist conception of 'deep grammar', Putnam (1962a) recognised that there must be detectable differences in the use we have for the verb 'to dream', in what inferences we find plausible, what sentences we find 'odd', according to what theoretical assumptions, if any, underlie our concept of dreaming. If our conviction that dreams are dreamt during sleep and remembered or forgotten were merely an idle speculation, detached from the perceptual model, there would be nothing in our use of the verb 'to dream' to distinguish it from a merely metaphorical manner of saying that telling a dream is very much like remembering events witnessed, except, that is, in regard to whether anything is actually remembered.

Putnam (1963b) allowed that empirical discoveries may lead us to radically revise our view of the relationship between a sentence and empirical evidence. The discovery that there is no 'cluster' of exceptionless generalities about dreams may lead us to regard one and only one exceptionless generality (i.e. dreams are what we appear to remember upon awakening where we are not remembering events from waking life) as unreviseable in the face of any empirical evidence. What was once a theoretical proposition becomes an 'analytic' sentence, in virtue of a shift in the use we have for it brought about by

empirical research. Suppose it were to turn out that Globot's Hypothesis were confirmed. The assumption read into ordinary talk by the Dispositional Analysis - that 'telling a dream' is caused by events occurring during sleep - would be shown to be false. Very likely we would carry on talking about dreams much as we do now. But our words would cease to have the import accorded to them by the Dispositional Analysis. We should then have to make do with the Reductive Analysis. Fodor & Chihara (1967) grudgingly allowed that "we could perhaps learn to live" with Malcolm's analysis were none better available. No doubt we could. But we would have to accept, as Putnam foresaw, that our statements about the events of a dream being dreamt during sleep, as if they could be known prior to an actual awakening, would survive only as a fiction comparable to the literary convention of an author's omniscient knowledge of the mental life of his characters.

5. The Dispositional Analysis is preferable to any functionalist analysis which implies the Representational Hypothesis (that a person's narrative of a dream corresponds to its normal cause in virtue of their common representational properties) for the Representational Hypothesis is superfluous to our conviction that dreams are remembered from sleep.

Malcolm saw a close connection between popular acceptance of the Received Opinion and the desire to explain our awakening impressions as the effects of events which happened during sleep. Malcolm regarded the urge to explain the phenomenon of 'telling a dream' as a source of confusion. He noted our willingness to infer from our apparent memories (e.g. the impression that it was raining) a causal explanation (e.g. that one has that impression because one felt the water sprayed upon one's face during the sleep) and warned that this can lead to confusion between a report of an incident (e.g. "I felt water

sprayed upon my face") and speculation about a likely-sounding causal intermediary ("I must have felt the water upon my face"). Malcolm thought that we are liable to confuse the proper causal explanation of telling a dream, whether it be a story about surface irradiations in the night, undigested cheese, 'psychic forces' threatening to disturb sleep, or neuronal discharges in the brain-stem, with the hypothesis that we appear to remember thoughts, images, sensations, etc. because during sleep we thought, imagined, felt, etc.

I follow Malcolm in drawing a distinction between the Causal Hypothesis, presupposed by scientific sleep research, and the Received Opinion. The discovery that our apparent memories upon awakening have a certain internal aetiology, that typical of remembering events recently witnessed, would not of itself show that we remember anything that happened during sleep. The discovery of regular correlations between brain processes occurring during sleep and what a person appears to remember (if awoken in a normal manner, prompted and not distracted) might show that a disposition of a determinate content is typically acquired and retained during sleep. But this would not show that dreams are perceptions, thoughts, images, sensations or any other kind of event remembered from sleep. It would not show that we knew (were 'aware' or 'conscious' of) anything that happened whilst we slept. It would not show that the acquisition of a disposition to 'tell a dream' (if awoken, etc.) is an 'experience', in any useful sense of that notorious term. Scientific sleep research will not give us any good reason to suppose that, in 'telling a dream', a person is demonstrating knowledge of events which happened whilst he slept. At most, psycho-physiological investigations may reveal that the ability to tell certain kind of story, a know-how exercised only when awake, is acquired and retained during sleep.

Functionalist analyses of 'remembering dreams', variously defended by Putnam (1963), Chihara (1964), Chihara & Fodor (1967) and Dennett (1976) against Malcolm's alleged behaviourism and verificationism, typically add the Representational to the Causal Hypothesis to account for what is remembered in telling a dream. As I see it, the Causal-cum-Representational Analysis is best taken to draw together the following propositions: that (a) dreaming is a brain process occurring during sleep which normally produces a disposition to 'tell a dream' (if awoken, etc.), that (b) dreams are remembered or forgotten from sleep if the disposition to 'tell a dream' (if awoken, etc.) is retained and lost according to mechanisms similar to those which explain how a person remembers perceptions, etc., that (c) rule-based computational models of brain function are indispensable to classify brain functions and thus decide whether or not dreams are remembered, and that (d) dreaming is an experience, rather than merely a token interpretable by brain scientists, if (i) the same brain process occurring when one is awake has the normal causes (environmental stimulus, other mental states) and effects (behavioural response and further mental states) appropriate to perceptions, thoughts, images, sensations, etc. or (ii) the brain process has at least a sufficient similarity in causal properties beneath the level of surface irradiations and environmental response to be interestingly classified under the common label 'experiences' or, possibly, (iii) the occurrence of the brain process is important as to the attitudes we adopt towards the person (e.g. our sympathy or moral concern for him) [see Horne (1984)].

The most sophisticated presentation of these diverse strands of the Causal-cum-Representational Analysis is found in Dennett (1976). Dennett did not assume that confirmation of the Representational Hypothesis would show that dreams are objects, events, actions, processes occurring during sleep. He

distinguished between the neural representation of the content of a dream and *what* is represented, the intentional object of such a representation. There is, according to Dennett, a further question about whether the acquisition of such an internal representation is an 'experience', i.e. something of which the dreamer is simultaneously aware.

Dennett took the phenomenon of dreaming to illustrate a problem facing any attempt to reduce 'introspection' to dispositions to first person utterances. It is a feature of our ordinary notion of experience that what we have experienced can outstrip our capacity to currently express it; it is a feature of our ordinary notion of experience that we can *remember* more than could be shown by our past disposition. But what, in the absence of evidence about past dispositions to verbal behaviour, could decide whether or not a person is presently *remembering?* Dennett's suggestion, here, was that relevent criteria may be provided by storage models of memory of the kind advanced by cognitive psychologists. He proposed that if telling a dream were caused by some internal process corresponding to the 'laying down of a memory trace' according to a storage model of short-term perceptual memory, then telling a dream should be accounted a species of remembering and, hence, dreaming should be accounted an 'experience' akin to waking perception.

However, Dennett recognised that 'laying down a memory trace' could not be regarded as a sufficient condition of 'experience'. It must also be shown that the *means* by which the memory trace is established (the means by which we acquire the capacity to tell a dream if awoken) is interestingly similar to waking perception or imagination. The issue about whether dreaming is an 'experience', Dennett concluded, could turns upon whether there is an analogy between the *peripheral* physiology of waking perception and StageREM sleep. It might turn out, Dennett explicitly allowed, that 'experience' is a term which

has no theoretical value. Even supposing our use of the term 'experience' and its cognates to have an indispensable role in expressing attitudes towards ourselves and other 'subjects of experience', it is an open and theoretical question whether this non-cognitive role is supervenient upon reference to some internal property of a person which explains his behaviour.

I assume that the Cartesian notion of introspection as a privileged knowledge of mental representation beyond scientific scrutiny is false and that, to the extent the Cartesian notion is implicit in ordinary talk about dreaming, ordinary talk about dreaming is false and in need of revision. I do not argue this assumption. The demolition of the idea that dreams are inner representations known with certainty by the dreamer, whilst merely inferred by others from the dreamer's waking report or behaviour during sleep, seems to me to be the unassailable result of Malcolm's application of Wittgenstein's thought to dreaming. I take it that Malcolm's linguistic deflation of the appearance of privileged authority is an improvement upon Cartesian versions of the Representational Hypothesis. The only serious rivals to the Reductive and Dispositional Analyses of dreaming are interpretations which imply a materialist version of the Representational Hypothesis, abandoning the idea that our introspective or retrospective knowledge of our dreams can be justified a priori without reference to the brain sciences.

I argue that the Representational Hypothesis is superfluous to our conviction that dreams are remembered from sleep. It is not necessary that a person have previously represented knowledge he presently remembers. It is sufficient that he exhibit an ability previously acquired and not lost. The ability retained may be an ability to say what happened, to sing a song, send birthday cards on time, predict the future, or, in the case of remembering dreams, to express a story without invention as if of events witnessed and deeds

done, which is not a memory of waking life. There is no necessity that, in acquiring an ability remembered, one exercise that ability or even be aware of the fact that one has acquired it. Were the Representational Hypothesis discovered to be false, it would not decide that dreams are not remembered from sleep. Further, were the Representational Hypothesis true, it would not follow that we remember internal representations from sleep. For the fact that cognitive scientists can map structures in the brain to narratives of dreams according to some syntactic model of natural language would not show that the dreamer knew the sentences tokened in his brain under the interpretation given to them by the the scientists.

Dennett finds a problem with the identification of the content of a dream with the content of an internal token or 'memory-trace', a problem about the failure of cognitive science to make space for any notion of 'experience'. 'Experience', it is true, does not seem to be reducible to representing; not even for the convenience of philosophers like Fodor who cannot abide the idea that there is more to common sense psychology than you get by being realist about representations. In setting up this problem, Dennett seems to me to suppose (or rather, to invite his readers to suppose, since Dennett always covers himself) either that 'experience' is a necessary condition of remembering, or that, if the acquisition of a disposition to tell a dream is 'experienced', then what is told is a report of what happened during sleep. It is sometimes said that knowledge remembered must be acquired 'through experience'. But, if so, the tag 'through experience' adds nothing to the requirement that knowledge remembered must be knowledge previously acquired. It is not necessary that a person acquire knowledge remembered through perception, unless it be knowledge of what is happening or seems to be happening. But a person's knowledge of his dreams is

precisely not knowledge of things perceived or misperceived, nor of the 'inner processes' by which his disposition to tell a dream is acquired.

The distinction I draw between the Received Opinion and the Causal-cum-Representational Hypotheses assumes that our everyday mental explanations in terms of beliefs and desires are by and large justified by common experience. My attack on the confidence of our everyday conviction that dreams are remembered is emphatically not part of a general revisionist programme like that envisaged by Churchland (1981) who regards even propositional attitude talk as a botched attempt at a causal theory. Ironically, my argument for the thesis that our ordinary conviction that dreams are remembered from sleep is a speculative hypothesis open to scientific confirmation or disconfirmation depends upon the contention that ordinary attributions of beliefs and desires are *not* speculative hypotheses open to scientific confirmation or disconfirmation. By and large, I agree with Ryle (see, e.g., his preface to *The Concept of Mind*) that the easy confidence of our everyday attributions of beliefs and desires is entirely justified by its evident success. By and large, that is, for the ordinary concept of dreaming is a notable exception.

I do not take Fodor's (1992) view that the success of our ordinary rationalisations of action in terms of beliefs and desires can only be explained by supposing that such practical reasonings correspond pretty well to internal computational-cum-causal processes. But even supposing that ordinary mental talk aims to pick out the internal causes of behaviour and that it is by and large successful in doing so, there are good reasons to doubt that dreams are perceptions, thoughts, sensations, etc. For, from what we know of the causes of perceptions (e.g. an impression of a tiger is typically caused by light-rays reflected upon the retina from a tiger or from some middle-size, middle-distant object like one) and from what we know of the behavioural effects of

perceptions (e.g. seeing a tiger typically causes one to run away or at least try to run away), there is good reason to be sceptical about the hypothesis that we appear to remember events witnessed and deeds done on awakening because, during sleep, we seemed to perceive and tried to do these things. Even if perceptions, thoughts, sensations, etc. are central brain processes, we would require some special explanation of why these processes do not have their usual peripheral causes and effects when they occur during sleep (e.g. the kind of story sometimes attempted with colourful anthropomorphism in the physiological literature about the cerebral cortex misinterpreting stimuli generated in the brain-stem and vainly sending out signals to a motor-response system paralysed by sleep). That such an explanation can be given is, at best, a matter of speculative science, at worst, a question-begging prejudice. The undoubted success of folkpsychology offers no pre-scientific justification of our commonplace conviction that dreams are remembered from sleep, even supposing (which I do not) that this success assures us that our everyday rationalisations of action correspond pretty well to internal processes governing behaviour.

It would be prudent of me to suppose that some reader (of course, not you, Dear Reader!) will remain unpersuaded by what he derides as the 'behaviourism' or 'instrumentalism' of my defence of the Dispositional Analysis. I shall be content to persuade such a reader that there is a remarkable gap between the undoubting confidence of our awakening conviction that dreams are remembered from sleep and the evidence we have for it. The best justification that can be offered for our conviction by materialist philosophers sympathetic to Representational Theories of Mind is that there is no good reason to judge that any rival hypothesis is true, that there is no good reason to judge that this hypothesis is false, and that this hypothesis has the

pragmatic virtue of suggesting a programme of experimental research. The conclusion follows that, even supposing the Representational-cum-Causal Hypothesis about dreaming to offer (like nothing else in town) the prospect of a multi-billion dollar bonanza of relevant experimental work, we have at present no body of evidence making it reasonable to assert with any confidence that future scientific results will confirm it. All we have is a hunch, no more than a speculative hypotheses, and the desire to collect some experimental data.

PART ONE

WHAT APPEARS TO BE REMEMBERED FROM SLEEP

CHAPTER ONE

EVENTS WITNESSED AND DEEDS DONE

1. Simply to say that evidence presented against the Received Opinion is 'inappropriate' because dreams are an extraordinary kind of 'experience' is, in effect, to admit that dreams are nothing other than what we appear to remember on awakening, where nothing is remembered from waking life and whether or not episodes are remembered from sleep.

In this chapter and the next, I argue that the Received Opinion is false. The relevant evidence is provided by familiar everyday observations about what people appear to remember upon awakening and about what happened whilst they slept, rather than by formal scientific investigation. Sober reflection on what we already know shows that, in 'telling a dream', a person usually does not remember any actions or events which occurred whilst he slept.

Whether or not dreams are remembered from sleep depends upon what dreams are supposed to be. The supposition that there is a common property between dreams and waking perceptions, thoughts, images, etc. is usually expressed by the dangerously convenient term 'experience'. The trouble with the view that dreams are 'experiences' occurring during sleep is that its aura of invulnerability to reasonable contradiction rests largely upon the obscurity of the relevant notion of 'experience'. One is often told what dreams are not, what causes and effects they do not have, what evidence is not appropriate, without

being told anything about what dreams are. No sooner has one rattled some alleged evidence mooted in favour of the traditional view than, unabashed and with no loss of confidence, its defender will insist (sometimes with a respectful nod to Science or, worse, Future Science) that some other kind of evidence ('I know not what') shall prove decisive.

Time and again, the self-styled Defender of Common Sense, outraged by the suggestion that a person telling a dream generally has no good reason to suppose that he is describing something which happened during sleep, will insist that the demand for evidence is misdirected or simplistic. When pressed for an account of what he genuinely remembers he will say that it is, of course, not a real tiger nor exactly a little picture of a tiger on the retina, but...Something Else! Unfortunately, it is all too easy to mistake saying what dreams are not for giving an account of what dreams are. Simply to meet the demand for justification of the claim to remember by denying, at every step, that evidence presented against the hypothesis is appropriate because dreams are an extraordinary sort of experience is in the end to say nothing about dreams being 'experiences' at all. It is, in effect, to admit that dreams are what a person - often very vividly - appears to remember on awakening, where he is not remembering anything from waking life and whether or not he is remembering episodes from sleep.

In this chapter, I take the Received Opinion to assert that, in the typical case of telling a dream, a person genuinely remembers what he seemed to see and tried to do during sleep. After all, dream narratives are usually stories as if of beliefs, desires and emotions formed in earnest and credulous response to events perceived. It is open for someone to come up with an alternative account of 'experiences' occurring during sleep, according to which dreams are even less akin to the ostensible objects of our waking impressions than 'seeming to see' and

'trying to do the things' we appear to have seen and done. But, as an attempt to protect the hypothesis that dreams are experiences, this approach strikes me as second best. It only magnifies the problem of justifying the claim that, in the typical case telling a dream, a person *remembers* such experiences, even should it be supposed that he had them during sleep. In the next chapter, I consider the view that what we remember, dreaming, is less a matter of believing and more a matter of imagining, entertaining thoughts, pretending to believe or some such similitude of perceiving and doing. This alternative to the notion that dreams are delusions serves only to discover additional difficulties for the hypothesis that we remember experiences from sleep.

The concept of an hallucination is not the concept of some extraordinary 'state of consciousness', best known to hippies or chronic alcoholics, which the rest of us commonly encounter only in the nightlife of our dreams. An hallucination is an interconnected web of false perceptual beliefs and frustrated intentions, and there are no more familiar psychological phenomena than beliefs and desires. We are everywhere masters of a theory of beliefs and desires. There is no shortage of evidence of the kinds of circumstances in which we confidently assert or deny the existence of mistaken impressions and thwarted desires. I argue that consistent application of our ordinary standard for judging what a person does or does not believe and does or does not intend, to the known facts of sleeping and waking, leaves no reasonable doubt that, in the typical case of telling a dream, a person remembers nothing believed or intended during sleep.

Once the ground rules of this argument are accepted, it is almost embarrassing how obvious and trivially true are the reasons forthcoming against the Received Opinion. The philosophical interest of the argument is sustained, however, by the revelation that here, as elsewhere in human

experience, is a phenomenon that commands assent to a proposition out of all proportion to its rational justification. The 'defence' of the Received Opinion is a grand tour of question-begging attempts to explain away the obvious evidence against it, of analogies drawn and distinguished ad hoc, of confirmations anticipated and disconfirmations forgotten, all conducted with a breezy confidence which betrays an ill-disguised prejudice that it 'must' be true. It is as if the natural phenomenon of awakening with an impression as if of events witnessed and deeds done, where nothing is remembered from waking life, were a potential source of illusion, compelling us to assent to the hypothesis that something is remembered, whatever its rational justification.

There are propositions, some famously examined by Hume, popular faith in which may be supposed to be practically indispensable. In these cases we can note the arguments and conclude, "So much the worse for human reason!". But Hume, very correctly, imposed rigourous restrictions upon what beliefs may escape the censure of reason. He did not, for example, place the rhetoric of theism within his category of 'natural beliefs'. Is there any more reason to suppose that faith in the Received Opinion has a value which mocks the efforts of philosophers to disprove it? Our seeming unwillingness to allow that the Received Opinion might be false is certainly no guarantee that there must be good arguments to be found in its favour, albeit that those arguments lie beyond the compass of understanding we presently have. Either it *cannot be* false, in which case it is not a genuine empirical hypothesis, or it should be allowed to stand *or fall* according to the evidence we presently have in view.

In this chapter, I argue that popular faith in the Received Opinion relies upon an unwarranted inference from an incontestable premise (that, in 'telling a dream', a person typically awakes with a vivid impression as if of events witnessed and deeds done but does not remember anything from waking life) to

the doubtful conclusion (that, in 'telling a dream', a person typically remembers what, during sleep, he seemed to see and tried to do). The premise assumes that there are good reasons why we suppose that a person is not remembering what he seemed to see or tried to do *whilst awake*, that there are recognised standards according to which we distinguish among vivid impressions as if of events witnessed between memories of hallucinations and hallucinations of memory. I argue that consistent application of these standards conclusively settles that, in 'telling a dream', a person typically does not remember what, during sleep he seemed to see or tried to do. The conclusion that dreams are not hallucinations does not show that dreams are something else remembered from sleep. It leaves only the uncontested premise that, in telling a dream, a person typically appears to remember events witnessed and deeds done, where nothing is remembered from waking life.

2. The principle that a person remembers what he appears to remember, even were it valid, would not support the hypothesis that dreams are false perceptual beliefs, unless it is further supposed that what a person appears to remember, whether he appears to remember seeing object O or seeming to see O, is one and the same thing, namely, a copy, image or representation of O.

It is sometimes urged that where a person's memory about the recent past is generally reliable we should take him at his word about what he seemed to see or tried to do, notwithstanding that he was sound asleep. Suppose, for the moment, the principle that where a person appears to remember something p he genuinely remembers p. This principle would not, of itself, support the claim that in remembering dreams one genuinely remembers what one seemed to see or tried to do. It is interesting to see what additional assumptions are required to

lend any plausibility to the argument from the general reliability of a person's memory about the recent past.

From the principle that where a person appears to remember something p he genuinely remembers p, it would follow, in the case where a person awakes with an impression that he seemed to see certain things, that he genuinely remembers seeming to see those things:

(A) X appears to remember *seeming to see* O; therefore, X remembers seeming to see O.

Clearly this is not the argument we require to support the view that dreams are misperceptions. It is a familiar fact that, in remembering dreams, we typically do not so much as appear to remember seeming to see or trying to do things; we appear to remember actually seeing things (like tigers) and actually doing things (like running away). The inference we need to justify is, rather, the following,

(B) X appears to remember *seeing* O; therefore, X remembers seeming to see O.

When a person awakes with an impression of having done and seen various things and then assures us that he seemed to see these things or tried to do them, it is not immediately in question whether his memory is reliable. What is primarily at issue is his *inference* from the apparent memory of one thing to actually being aware of something else. The fact that his memory is generally reliable is no reason to take his word for granted about the explanation of his apparition of memory.

In ordinary circumstances we would understand a person who, on awakening, prefaced his narrative with 'It seemed to me' simply to mean 'It seems to me, but I don't credit it'; that he has an impression as if of events witnessed but believes that no such events took place. But if he were earnestly to insist that he was, in some sense, aware of something during asleep then we are entitled to

some account of what he was aware of and the evidence that he was aware of it. Let us suppose that there is evidence which supports his inference. Suppose, that is, that a person has an impression that he saw and did various things and, further, that there is independent reason to say that he seemed to see and tried to do these things. It does not follow that he remembers seeming to see or trying to do these things. The fact that a person seems to remember seeing O because he seemed to see O does not guarantee that he remembers seeming to see O. Even if a person's inference to false perceptions during sleep were valid, it would not follow that he remembers anything.

I do not mean to argue that when a person appears to remember seeing or doing a certain thing, it is never correct to say that he really remembers something else, namely his seeming to see or trying to do those things. It would be wrong to maintain that, where X has an impression as if of seeing O, it cannot be said that he *remembers* seeming to see O but only that he knows that he seemed to see O *by inference* from his present impression. In some circumstances, the following scheme of argument is valid:

X appears to remember seeing O

X seemed to see O

X remembers seeming to see O.

However, there is no little confusion about the circumstances in which this schema is valid. That confusion arises, in part, from a mistaken conception of what is remembered when one remembers seeming to see O, which stems , in turn, from a mistaken conception of what is seen when one seems to see an object O.

The mistake is a familiar one in the philosophy of perception. It is to suppose that when a person sees an object O, he sees a copy or image, a sense datum or representation of O. It is sometimes said that a person directly

perceives only 'appearances' or that he directly knows only his 'experiences', and that he must infer from these representations the existence of material objects. Similarly, it is sometimes said that when a person remembers seeing O he remembers (or *directly* remembers) only an 'experience' (appearance, impression, copy, image, engram, trace) of O. It then looks as if the both following inferences are valid:

(C) X remembers seeing O; therefore, X remembers seeming to see O.

(D) X appears to remember seeing O; therefore, X appears to remember seeming to see O.

It should be noted that, even if these inferences were valid, it would not follow from the fact that a person appears to remember O, that he remembers seeming to see O, any more than it would follow that he saw O. We would first have to re-examine the supposition that it is reasonable to infer that a person remembers what he appears to remember. However, it is now easier to see why someone might suppose that the principle that a person remembers what he appears to remember could be of service in support of the Received Opinion. He may tacitly be relying on the following, doubly questionable, line of reasoning:

(E) X appears to remember seeing O; therefore, X appears to remember seeming to see O; therefore, X genuinely remembers either seeing O or seeming to see O.

There is, however, an important truth in the above mentioned confusion over what is remembered when one remembers seeming to see an object O. The truth is that when a person seems to see O, there is something that he sees; and that, when a person remembers seeming to see O, there is something that he remembers seeing. The mistake is to suppose that what is seen or what is remembered is a copy or image of O. This mistake is made when one supposes that what is remembered is an experience as if of O, where 'an experience as if of O' is thought of as having something in common with a case of seeing O (its

'subjective appearance') and yet is supposed not to be a case of seeing any object P, Q or R.

3. The familiar evidence of behaviour and responses which defeats an inference from a person's impressions of things seen and done to seeming to see and trying to do these things whilst he was awake, equally defeats an inference to seeming to see and trying to do these things whilst he was asleep, unless there is some other positive reason to believe that sleep causes concurrent illusions of perception rather than subsequent illusions of memory.

When a person tells a story as if of events witnessed and deeds done, where no such events or actions happened, we do not automatically conclude that he seemed to see or tried to do these things. There is a good probability that he did not seem to see or try to do any such things and that, for some other reasons, he merely appears to remember. When a person suddenly has an impression of having just been chased by a tiger, the fact that he had been sitting quietly with his eyes shut is good reason not to believe that he seemed to see a tiger and tried to get away. Evidence that he did not see any objects having an appearance similar to a tiger, and that his behaviour betrayed no signs of alarm and struggle, is perfectly adequate to defeat the hypothesis that he believed himself to be pursued by a tiger.

It is a mistake to think that this kind of evidence is insufficient to counter a person's impression that he remembers something. This is plain when we reflect that we do not suppose that a person telling a dream does so because he seemed to see and tried to do various things *whilst awake*. The reasons why we do not suppose a person to be remembering what he seemed to see and tried to do when awake are, perhaps, so obvious that it is easily overlooked that we rely upon them. A cursory glance at his environment, behaviour and responses when

awake is generally quite enough to assure us that the history of a person's beliefs and desires has no correspondence with the adventure he appears to remember when he tells a dream. The same kind of evidence shows equally that his awakening impressions are not caused by seeming to see and trying to do anything during sleep when he was asleep. It is a familiar fact that a person asleep typically sees nothing he might have mistaken for something else and shows no sign of trying to do anything.

Even if it is supposed that someone is remembering an hallucination, it is reasonable to ask *when* the hallucination occurred. The evidence of environmental stimulus, behaviour and responses gives no obvious reason to suppose that a person generally remembers what he seemed to see and tried to do whilst asleep *rather than* when awake. If our impressions of past events give a reason to infer past hallucinations, there must be further reason to infer that the hallucination occurred during sleep rather than whilst awake. Otherwise, we are left with nothing positive about what happens during sleep. We are left only the negative point that, when a person awakes with an impression as if of things recently seen and done, there is usually good reason to suppose that he does not remember what he seemed to see or tried to do whilst awake.

4. It does not follow from 'X remembers an illusory object O' that X remembers anything, unless what is meant is that X remembers some object O under a false description.

The problem with the traditional view that dreams are 'experiences' is to find something that is remembered. To say that an 'experience' or 'appearance' is what is remembered when one does not remember seeing this or doing that, may be just be giving a name to nothing. It is like saying that a person remembers an

illusory, imaginary or fictional object. All that may be meant is that he does not remember anything, for no such objects exist. If what is meant is that he remembers something that happened, some aspect of a past occasion of seeming to see, imagining, hearing tell of the Unicorn, or whatever, some account must be given of what this is supposed to be.

MacDonald (1953) pointed out that, in the usual case in which someone seems to see something, there is something that is seen which is mistaken for something else in virtue of its sensible appearance. Sometimes this is a copy, picture or image, which one mistakes for the original in virtue of its likeness. But it need not be a copy, picture or image. Often an object which is not the product of any representational intention has the sensible appearance of another and is mistaken for it. Something is seen and is mistakenly believed to be something else. Similarly, in the usual case that someone remembers seeming to see something there is something that is remembered but it is mistakenly remembered as something else. For example, McDoughball, watching birds in the garden, catches glimpse of the neighbour's ginger tom blurred and magnified through his binoculars. He mistakenly supposes that a tiger, escaped from Corstorphine Zoo, is running amuck through the dahlias of Morningside. McDoughball makes swiftly for safety in the greenhouse and bars the door. Some hours later, his wife, Lessa, attempts to coax him back to the house for tea. He tells his story of being chased by a tiger. He appears to remember seeing a tiger. Does he remember seeing a tiger? No. Does he remember seeing anything? Yes. He remembers seeing Fluffy, the neighbour's ginger tom. But he remembers Fluffy under a false description, namely, 'the tiger amid the dahlias'.

5. The identification of an object impinging upon a person when sound asleep with an object apparently remembered upon awakening must rest upon our general experience that objects of such and such a kind are readily mistaken for objects of such and such another kind, unless we have a positive reason to assume that a person asleep is constitutionally disposed to perceptual errors.

Evidence is required to show that a person saw and remembers some object which appeared to him as the object he appears to remember. But it is no discovery that a person asleep generally sees nothing. His eyes are closed. And even if it were supposed that through seemingly closed lids he perceived what went on in his bedroom, what goes on in the bedroom while a person sleeps is typically nothing like what he appears to remember when he awakes. It is a matter of experience that, from a distance, square towers look like round towers, that straight sticks look bent in water, and so on. It is not a matter of experience that pitch darkness, the ticking of an alarm clock and the occasional rustle of the curtains appear one night as a tiger in the jungle, the next as an erotic encounter with the milkman, another time as a skiing holiday on Mars.

It may be objected that, in order to identify objects in the sleeper's environment with what he appears to remember upon awakening, we do not have to appeal to regularities in what kinds of things are commonly mistaken for others. Sometimes we can reasonably judge that a person misidentified an object without reliance upon general truths about what objects are readily confused with others in virtue of its appearance. For example, we can suppose that McDoughball mistook Fluffy for a tiger, without implying that anyone else in like circumstances would make the same mistake. It may be a matter of general experience that there is some resemblance in colour and shape between tigers and ginger toms viewed through poorly focused magnifying lenses. But that is hardly sufficient explanation for McDoughball's actions. What we

additionally suppose is that McDoughball is an uncommonly foolish fellow. There is assumed to be something constitutionally defective about poor McDoughball in virtue of which the remotest resemblance between objects can lead to erroneous confusions. It is as if McDoughball were a known alcoholic and a tell-tale sherry bottle had been spotted beneath the bird-table.

Does not a similar assumption account for the identification of the events of a dream with happenings during the night, notwithstanding that the similarity of appearance, to someone of a normal waking constitution, is too remote to explain an error? It is not readily supposed that people who tell dreams are, like McDoughball, unusual in their liabilities to confuse objects according to their appearances. And the hypothesis that sleep, like the demon drink, makes fools of us all, begs the question of what evidence counts in its favour. In the case of McDoughball, we have evidence of his actions and responses to Fluffy which show that he believed there was a tiger and that he intended to run away from it. It may also be supposed that we have similar evidence in a history of like cases which establish what an unusually credulous lummock McDoughball is. If it were not for such evidence, there would be nothing in favour of the hypothesis that McDoughball remembers Fluffy, except the proposition that a ginger tom seen through unfocussed binoculars has a vague resemblance to a tiger. Similarly, it is a matter of record that those who have taken to drinking completely are liable to find that their senses play tricks upon them. Take a walk through Edinburgh's grassmarket and there is your evidence. The incongruous reactions of chronic inebriates directed towards what is plainly in their view and hearing is what shows us that alcohol can bring about an abnormal propensity to confuse objects having only the remotest similarity in appearance.

It is possible that sleep may bring about a similar change in our constitutions. But what is the evidence that this is what happens? Drowsy people are sometimes confused about what they see, it is true. But, then, the more tired a person becomes, the less likely he is to form any opinions at all about what's going on around him. It is much more characteristic of a person who was close to sleep that he does not subsequently remember what was going on rather than he remembers it under a false description. One can hum and ha about which way the balance of such evidence goes as far as drowsy people are concerned. But its weight cannot seriously be supposed to explain away the obvious evidence that a person *asleep* is not so much as trying to make sense of his surroundings. The Received Opinion is not defended simply by conceiving of hypotheses which, if true, would save it from the disconfirming evidence which confronts us. Unless the evidence in favour of the hypothesis that sleep makes a person unusually prone to perceptual error is commensurable with the contradictory evidence that sleep makes us deaf, insensitive and blind, its advocacy is a disreputable piece of special pleading.

To establish an identity between what a person appears to remember upon awakening and what he misperceived during sleep, we are forced to rely upon such generalities of experience as, for example, that alarm clocks sound a little like fire bells, snores have some resemblance to thunder, and a spray of water feels like rain. For, in the circumstances typical of a person asleep, we have nothing better to go upon. The problem remains that resemblances between the appearance of objects impinging upon a person during sound sleep and subsequent awakening impressions are the exception rather than the rule. For every association between something a person appears to remember and something in the bedroom which, taken in isolation, would suggest that the sleeper is aware of his environment and making mistakes about it, there are many things which

a person appears to remember which have not the remotest similarity to what passed in the night. *Many, many* things! It is not simply that these disassociations are left unexplained by the hypothesis that the sleeper was, in some respect, aware of his surroundings and was earnestly trying to make sense of what was going on around him. Without that hypothesis, the mystery was how it comes about, without him trying to see or do anything during sleep, that a person appears to remember events that did not happen when he wakes up. With it, the problem is a new one about how a person who is trying to to make sense of his environment fails even to get his eyes open and does not realise it!

6. It is not a matter of experience that physiological processes mediating perception are mistaken for external objects in virtue of similarities in appearance.

The problem of identifying anything that the dreamer seemed to perceive or tried to do during sleep tempts one to suppose that the objects of perception and our responses to them are hidden from view. They are very small and occur at or beneath the interface between a person and the 'external world'. Why is it not evident that a person sees things and does things during sleep? Answer: Because we are not looking with the instruments appropriate to detect these objects and actions. Scientist, however, have discovered techniques for measuring various sensory stimuli impinging upon a person, their pathways beneath the skin and the subtle bodily responses evoked. Can we not suppose that scientist will discover, perhaps somewhere behind the retina or ear-drum, the objects perceived during sleep and misremembered upon awakening? Have not the scientist already discovered many of the phenomena in question, albeit under descriptions with which we are unfamiliar?

The trouble is that we have no idea of what mistakes a person might conceivably make about the events in his retina or inner ear in virtue of their appearance to him. The fact that we appeal to scientists aided with special instruments to discover what a person is supposed to see, hear and feel during sleep shows that these are not the kind of things that we readily recognise by their appearances. If what we have to go on are generalities linking events occurring during sleep with what we appear to remember in virtue of their known resemblance when viewed in a certain manner, then we have nothing to go on where those events are supposed to be internal processes discovered by physiologists and brain scientists. We have no knowledge of what brain processes look like 'from the inside'. We have no knowledge of what they look like when viewed with the naked eye. We do know how they appear on the monitor of the scientist's electrographic equipment. But, viewed in this manner, the physiological processes associated with perception and action have no resemblance to what a dreamer appears to remember upon awakening.

It may be that much has been discovered about, for example, what electro-chemical modifications occur inside a person when he sees a certain object O or any other object (P, Q or R) that emits a similar pattern of light-waves to that emitted by O. It is tempting to suppose that, were it discovered that these chemical modifications occurred during sleep, a person should be said to 'seem to see' O. The convenience of this manner of speaking would be, perhaps, unavoidable. It may also be unobjectionable. So long, that is, as it is not implied that something is seen. But, once admitted that there is no reason to suppose that something is seen when these electro-chemical modifications occur, then it cannot consistently be argued that, should these internal events produce in their host a disposition to tell a story as if of seeing O or some object (P, Q or R) like O, something is remembered.

7. The fact that events impinging upon a person during sleep have a similar appearance to what he appears to remember upon awakening, may causally explain his apparent memory, without it being entailed that he misperceived those events during sleep.

Fester rises at noon and tells us that she heard hymn-singing. Shouldn't we apologise for disturbing her at ten with Radio Four's morning service? We begin. But Fester interrupts. (She always does.) She was in Heaven. All around, Angels were in chorus. Peter conducted and Fester strummed along on a golden harp. Did Fester hear the radio and then elaborate her experience in a dream? Is that to say she was awake when the hymns were broadcast? And, awake or asleep, did she mistake the bedroom for Heaven, the BBC choir for Angels, and Gladly (my cross-eyed bear) for the conductor?

It is well known that there are non-accidental connections between what a person appears to remember and the appearance of events impinging upon a person whist he slept. But is there any good reason to infer that the causal connection between sensory stimulus during sleep and apparent memory upon awakening is mediated by misperception of the event? Squires (1973) drew an analogy with the phenomenon of 'subliminal advertising':

> "The claim that the audience must have seen the images (though it didn't) or that the sleeper must have been aware of the water on his face (though he wasn't) can be taken in two ways. It may mean that the images and the water affected their victims by a similar mechanism to that which would have operated had they actually seen the images or felt the water. This vague physiological claim is very likely true. On the other hand it may mean that, despite appearances, the members of the audience did see the images, that the sleeper actually identified the water on his face. This seems to be false." [p.251]

The fact that an object acting upon a person's sensory apparatus during sleep has a similar appearance to what he appears to remember when he awakes offers a causal explanation of his apparent memory without calling into question the supposition that he was unaware of anything happening around him. The fact that sounds striking Fester's ears during sleep have a similar effect to that likely had she heard the Morning Service need not be taken to show that, after all, she actually heard the Radio and misinterpreted or misremembered it as a chorus of Angels in Heaven.

The recognition that we can explain non-accidental connections between what went on in the bedroom and what a person appears to remember upon awakening without supposing that a person perceived or did something (and was trying to see and do much more) frees us from the encumbrance of explaining how a person could perceive or do *this* much and no more; how he could hear the crash of the vase falling during the night, mistake it for gunfire from his pursuing enemies, yet fail even to realise that he was going nowhere with his eyes closed. There is a world of difference between the hypothesis that our sensory apparatus is operative during sleep and the hypothesis that we are systematically deluded about the events going on around us. It is one thing to suppose that a parent's ear is critically attuned to discriminate the infant's cry amid the traffic's roar, and quite another to suppose that he is carefully employed trying to converse with snowmen on Mars, count the humps on a camel's back, or make a date with Doris Day.

8. In cases where there is a causal connection between an object O acting upon a person's sensory apparatus whilst he slept and his subsequent waking impression as if of some object (P, Q or R) resembling O, any attempt to identify the dreamt object (P, Q or R) with O in virtue of its sensible appearance is

defeated by a failure to identify the dreamt object (P, Q or R) with O in virtue of its apparent location in time and space.

We suppose that the sounds of the radio caused Fester's auditory impressions upon awakening. How might we establish that Fester heard the radio whilst she slept? This is really a question about whether we can identify Fester's waking impression as an impression of the Morning Service and not merely an effect of it. The qualitative resemblance between the sound of the radio and Fester's waking impression of hymn-singing is reason to look for a common cause but not sufficient to establish identity of perceptual object. What other features could Fester's waking impressions have in common with the sound of the radio? Well, the hymn-singing appears to Fester to have taken place in the past and in her immediate environment. This, at least, looks promising. If it were not for this, if Fester's impressions did not have so much as an apparent location in *her* sensible environment and in the *past*, the idea that she is remembering past perceptions would never have occurred to us.

However, if the events perceived and deeds done which appear to locate the impressions in her past cannot be identified with anything Fester did perceive or do, we have no good reason to conclude that these sensory impressions deserve a place in her biography. In the typical case of 'telling a dream', the dreamt object appears in the context of events perceived and deeds done which did not occur. Where did Fester hear the hymn-singing? In Heaven, where the Angels live. When did it happen? When Fester strummed upon her golden harp. If this is what Fester has to say (she won't be contradicted) who is to say that she actually heard the radio in the bedroom whilst she slept? In those cases where the sensible appearance of an object acting on a person during sleep explains the sensible appearance of an object in his dream, the evidence of what he appears to remember typically gives us

good reason not to identify the object which explains his apparent memory with the object he appears to remember.

Sometimes it is tempting to suppose that a person may be aware of some of the events occurring whilst he sleeps and that these events may figure in his dream albeit in a strangely transformed appearance. One might like to say, for example, that the dreamt crash of gunfire in the Zulu wars is the misperceived crash of the vase that fell at four o'clock in the morning. But it is also tempting to insist that the events of a dream, like those of a completely fictional world of illusion or imagination, occur only as and where and when they appear to occur to the dreamer. The theory that dreams are misperceptions occurring during sleep cannot have things both ways in its favour. The problem of establishing that what a person appears to remember was falsely believed by him to exist in *this* world, that is, at the time and in the place where he lay asleep, cannot be avoided by offering a location among further non-existent objects. To say that the events of a dream narrative were perceived as located 'in a dreamt world' is no defence of the hypothesis that they were misperceived as located in the bedroom during the night.

9. Even were it supposed that the illusory object was not a misperception of something seen, we require evidence that it was believed by the dreamer to exist in the context of objects and events around him whilst he slept.

MacDonald (1953) argued that it is a necessary condition of seeming to see something that something be seen in relation to which the illusory object may be given a spatio-temporal identity in this world. What is seen need not be a copy or image of what one seems to see. Indeed, it need not have any generally recognised likeness to what is seen. But what is genuinely seen must appear to have a spatial and temporal relation to what seems to be seen. Illusory objects

and events appear in the context of genuinely perceived objects and events. For example, Lilly is frightened by a sinister figure in the doorway. There is nothing there to be seen. Even so, Lilly is seeing something. She sees the doorway in which the illusion makes its frightening appearance.

It need not be supposed that when a person remembers seeming to see something that there is something he sees and mistakes for something else. The attraction of the supposition that, during sleep, a person mistakes one thing for another was the hypothesis that causal connections between objects acting upon a person during sleep and his subsequent waking impressions are good evidence of delusions during sleep. But, whether or not an illusory object is supposed to be a misperception of something, we require evidence that the said object was believed by the dreamer to exist in the world around him as he slept. That is, we require evidence that something was seen in relation to which the illusory object can be given a notional location in the world. Evidence of what apparent location the dreamt object had for the dreamer, supposedly provided by his waking impression, typically yields no description of the world around him whilst he slept. False descriptions of what went on around him won't do the trick of confirming that the dreamer asleep believed a non-existent object to have a place in existence.

Do we require descriptions at all? Can we not coherently suppose that the illusory object appeared to the dreamer 'hereabouts' and 'just before he woke up'? We could suppose this, perhaps, but our problem is one of evidence not of intelligibility. A person asleep does not point, nod or otherwise gesture that his beliefs are about the 'here and now'. We might suppose that a person remembers making some inner mental demonstration by thinking to himself *'This* is the end of *me'* (as he is chased through the jungle) and *'now* is the time for prayer' (as the tiger catches up). It would not follow that he believes *of*

himself in the bedroom as he slept that here and now he is tiger-chased through the undergrowth. To urge that we give up the attempt to identify what a person appears to remember with what happened to him in the bedroom by establishing that some of what he appears to remember (e.g. that he was the Caliph of Damascus) was *true* seems to me to be a council of despair for the Received Opinion.

10. A person who remembers what he did or would have done may be judged to remember false perceptual beliefs which rationalise those actions and dispositions to action even where he does not appear to remember any illusory object.

Perceptual beliefs are ordinarily attributed to a person in order to explain what he does or would do. Evidence of what a person did or would have done whilst asleep might give us a reason to attribute perceptual beliefs which would make those actions and dispositions to action reasonable. And, what is more, if it could be established that a person remembers what he did or would have done during sleep, he might be said to remember the false perceptual beliefs which make those actions or dispositions to action reasonable. This might be thought to afford a means of justifying the hypothesis that dreams are delusions. It promises to establish that the illusory objects have an apparent location in the perceptual environment of the dreamer whilst he slept by reference to what he did or would have done. It appears to free us, at least initially, from the burden of establishing that the illusory objects have an apparent location in the perceptual environment of the dreamer whilst he slept by reference to objects and events in that environment genuinely remembered upon waking up.

Squires (1973) gives an example of someone properly judged to remember false perceptions on the grounds that he remembers what he did or would have done:

> "Suppose McX walks into a mirror under the impression that it is a doorway between two rooms. His action is explicable by reference to a state of affairs which does not obtain. He may remember the whole incident, including stepping forward and smashing into the glass. As a result of the impact, however, he may only recollect walking towards the mirror when told to circulate or being surprised that there were so many guests at the party, or saying to himself, 'I'll go through that door into the other room'. He remembers being under a false impression even in these cases because he recalls doing something which was, whether he knows it or not, to be explained as appropriate to an imagined situation ... McX may only remember things he would have done. For instance, he may remember that he would have pointed to the mirror if asked for the way out. Provided that the explanation of what he would have done lies in specifying the imagined situation, he still remembers being under a false impression. But if he does not recollect what he did or would have done, at the party, he does not recall being under any impression." [pp.254/5]

Can we find anything that a person did or would have done during sleep that he remembers when he tells a dream?

It is a familiar fact about sleep that, in the usual case, people do not do very much. Certainly the elaborate and interconnected sequences of actions pertinent to a person doing the kinds of things one typically seems to remember upon awakening, like going on an Alpine holiday, are very seldom things done during sleep. Perhaps it is not extraordinary for someone to perform isolated movements during sleep. It might even be supposed that these isolated movements often enough have some resemblance to what a person would do if he

thought he was doing the things he subsequently appears to remember. However, in the usual case, it would require an unrestrained flight of fantasy to sustain any connection between the abbreviated movements of a person asleep and the complex narrative sequence he appears to remember upon awakening.

Mark appears to remember climbing the Eiger. In the ordinary case, we would not expect to find that he had clung to the pillow, 'cramponed' up the mattress, and swung an imaginary ice axe towards the bedhead. He could have done these things. But, given what we know about sleep, we don't usually have anything like as much evidence to go on. Perhaps, in a typical enough case, we might find some odd behaviour appropriate to the actions apparently remembered. Suppose that it is not improbable of someone narrating a dream (e.g. Mark telling us about his ascent of the White Spider) that he did some isolated movement during sleep appropriate to someone engaged in the adventure he relates (e.g. that Mark dug his fingers into the pillow). Would this show that he remembers something he did during sleep in virtue of which we might say he remembers believing that he was climbing the North Face?

The hypothesis is that Mark's fingers clenched around the pillow confirm that he remembers seeming to climb the Eiger. The problem is that, if Mark's behaviour shows that he remembers seeming to climb the Eiger, it must be supposed that Mark was aware of clawing at the pillow, albeit under a false description (e.g. 'pulling up on the chock-stone below the final overhang'). But why should we suppose both that he was aware of some particular bodily movement and that he was unaware of the fact that he is failing to do all the other movements that would be appropriate to climbing? If it is supposed he was aware of his bodily movements, then, taken in isolation his tensed fingers may suggest that he remembers seeming to grip the rock. But this evidence must be balanced against the fact that, if he were aware of his bodily movements,

he would promptly realise that he was not succeeding in doing very much at all, and would not be under the misapprehension that he is making headway towards the final overhang. There is nothing to be gained from supposing that Mark does not realise that he is doing nothing appropriate to cramponing up the verglass and swinging his axe at the ice bulge. For, if that were the case, we would have no reason to consistently assert that he was aware of his fingers clawing at the pillow, and that he remembers these movements under the false description, 'pulling up on the chock-stone'.

It might be thought that a solution is afforded by the hypothesis that what a person remembers is not successfully or unsuccessfully doing movements appropriate to the actions he appears to remember but *trying* to do the movements, and that, in virtue of this, we can conclude that he remembers being deluded in sleep. On this hypothesis, the evidence of Mark's clenched fingers is to be taken to be evidence that he tried to climb the Eiger, rather than to be evidence that he was aware of grappling with the pillow under a false description. It is not argued that he was aware of the failure nor the success of his intentions to produce the appropriate movements, only that he remembers certain intentions. But Squires (1973) pointed out that this will not do. Even if it were clear that Mark tried to do all the kinds of movements appropriate to a mountaineer, it would not follow that he remembers these attempts:

> "Suppose Jennings attempts an anagram one morning by eating fish for breakfast and gazing into a crystal ball, intoning the letters of the anagram one by one. He fails. That afternoon he claims to remember, or is inclined to think he remembers, having solved the anagram. It by no means follows that he at least remembers trying to solve it, even though he obviously did try to solve it. When we ask him further questions, we may find that he has no recollection of any of the steps he took ..."

Very likely, Mark does not so much as appear to remember by what processes he attempted to move his limbs up the North Face. And, if Mark does not remember his movements nor his attempts to move, there is no reason to infer that he remembers any false perceptual beliefs which would make those movements or 'attempts' reasonable.

11. Evidence about what a person would do if he were not 'frustrated by sleep' fails to support the hypothesis that he is deluded.

Dozy is hungry. Why doesn't he get up and make for the kitchen? Because he cannot (but he would if he could). Why can't he? Because he's paralysed by sleep (only he doesn't realise it). So he would raid the fridge if he were not asleep? Should we wake him up, to help him do what he wants? Perhaps not. If we woke him up he might very well stop feeling hungry! So the fact that he is asleep does not explain why, if he's hungry, he doesn't get up and eat? What is the explanation then? Is he on a diet?

Where it is supposed that a person was frustrated from doing what he would, evidence can be given by providing him with the opportunity to do it. A person is provided the opportunity precisely where the obstacle which explains why he is frustrated is removed. If it is said that he can't be given an appropriate opportunity, or that the only means of providing an opportunity are likely to make him change his mind, then we are robbed of any explanation of why someone with those those beliefs and intentions did not do the appropriate actions. The fact that he did not act in the appropriate manner stands as good evidence that he did not have those intentions and beliefs.

A person telling a dream often appears to remember things he would have done if he'd had the chance. Mark tells us that he wanted to place another piton before tackling the overhang, but he'd run out of gear. How might we

have tested the hypothesis that Mark is remembering being under the false impression of climbing the Eiger, in virtue of the fact that he remembers what he wanted to do, if he'd had another piton? The obvious idea is that we could have tested this hypothesis by having given Mark a piton and watched what he did with it. Suppose we had put a piton in his hand. (Mark's bedroom is full of pitons.) He does nothing with it. Perhaps he doesn't realise there is a piton in his hand? (Not surprising, really, since he's asleep.) What can we do other than wake him up and tell him? I give Mark a poke. He tells me where to stick it (the piton, that is).

Mark also tells us that we'd interrupted a Really Good dream about climbing the Eiger, in which he'd got to a point where he desperately wanted a piton, just before we woke him up. Remarkably, our prediction of Mark's awakening narrative was correct. But what justification does this give us for thinking that Mark's annoyance at our attempt to help him do what he wanted to do is unreasonable? The causal connection between his behaviour during sleep and the dream he tells does not itself justify the hypotheses that he is remembering what he tried to do. According to our ordinary means of finding out what a person would do if he could, we have no reason to assert that a person telling a dream remembers what he would have done when asleep. Hence we have no reason to infer that had any of the false beliefs according to which such dispositions to action would be reasonable.

12. A person's narrative of a dream is not confirmed to be a memory of episodes occurring during sleep by its effects in waking life.

Mandy thinks that she watched Navratilova beat Evert in the semi-finals. She checks with Sue. Yes, Sue says, she and Mandy were together on the sofa, the semi-final was showing on T.V., and didn't that big strapping Czech do

well. So Mandy switches on expecting to watch her heroine in the finals. Oh no! Navratilova is not on court. Evert is there, rooted to the base-line as usual. What a bore! Mandy's memory is shown to be mistaken, not by disagreement with Sue's observations (they were both hopelessly drunk), but by its unreliability as a guide to subsequent events. A person's memory of past events is often confirmed or disconfirmed, not according to whether it corresponds to other contemporary observations of those events, but according to its coherence with the pattern of subsequent events, according to whether subsequent events are the probable consequences of the events remembered. Similarly, a person's narrative as if of perceptions remembered from sleep could be confirmed by what follows in waking life. But is it? It seems to me that it is not.

Shaffer makes the point about decisions:

> "Dreaming that I decide to change my career plans has no carryover into subsequent waking actions, intentions, desires choices reasons proferred, deliberations, waverings, or changes of mind. It is not that upon awakening I change my mind, forgot my nocturnal 'decision', or undergo weakness of will. It is as if I has never made the nocturnal decision, and the most reasonable explanation of why it is as if I had never made the decision is that in fact I never did." [p.138]

There are some connections between the content of a person's narrative of a dream and events in waking life. For example, a person who tells a dream of being terrified by a giant spider may well show signs of terror. According to Malcolm (1959) the fact that this person is genuinely terrified when he wakes up with an impression of having seen an enormous spider, implies that 'in his dream' he was terrified of the monster. His awakening impression of the dream is shown as much by the sweat on his brow as by the words he utters. However, it would be misleading to say that his waking behaviour and

appearance 'confirms' his narrative. It is, rather, part of the phenomenon of 'telling a dream', a speech act consisting not merely in uttering words as if describing events witnessed but also in behaviour characterising an emotional attitude to those events. The point remains that, in general, the connections between the events of a dream narrative and our waking emotions, attitudes and feelings go no further than the manner in which we tell the story upon awakening.

Granted that we should not infer from Single's having dreamt that she paddled her own canoe that, whilst asleep, she was disposed to act and speak as one under the impression that she successfully paddles a canoe by herself, it remains that there are, sometimes, further connections between the content of a person's awakening narrative and what we do and say in waking life quite apart from the manner of telling a dream. For example, Single's boyfriend, having learned of her dream, is less surprised when she dumps him. We sometimes expect certain things to follow in waking life from having such-and-such a dream to tell. There are empirical connections between what a person appears to remember upon awakening (where he is not remembering events witnessed before he fell asleep) and events in subsequent waking life apart from his awakening impression. But, just as a person's dream narrative is not generally confirmed by independent evidence about what happened whilst he slept, so it is not generally confirmed by any waking consequences it might be supposed to have if it were a description of mental events and acts occurring during sleep.

Single's decision to go it alone may have a causal explanation in her having dreamt that she paddled her own canoe without supposing that the cause was something which happened during sleep and was remembered upon awakening. Perhaps her merely appearing to remember paddling alone made

her see that she didn't need a man ("All men are Bastards!"). Sometimes, for example, a person's dreams have a dramatic impact on his waking life because he takes seriously a 'particular theory of dream interpretation. No further explanation may be required of the connections between his dreams and waking life other than that, given his beliefs about the significance of dream narratives, whether he eats fish, plants his garden, spends lavishly, trusts no one, or stays in bed is decided according to the daily flavour of his awakening impression. Very likely, of course, such beliefs about the significance of dreams will imply that whatever causes a certain awakening impression will also cause other things to happen in waking life. It may, for similar reasons, be conjectured that both Single's awakening impressions and her giving Loverboy the push are effects of a common cause, an unfulfilled desire for independence. However, even supposing that there are sometimes connections between what dream a person has to tell and what he does in subsequent waking life which invite an explanation in terms of some common cause, and even supposing that cause to be a process occurring during sleep, it does not follow that such a process consists in beliefs, intentions, sensations, images, feelings or anything else that we appear to remember; it does not follow that such connections 'confirm' a person's awakening narrative to be a description of what happened during sleep. The hypothesis, for example, that an unfulfilled desire for independence (call it 'subconscious' if you want) caused both Single's awakening impression of solo canoeing and her boyfriend's grief, is not a hypothesis that Single remembered anything that happened to her during sleep.

There are some cases where what a person does upon awakening is 'just as if' he had experienced the events related as a dream. For example, it would not be surprising, nor need it be unreasonable, for someone to visit a dentist after having dreamt a toothache. Sugar's dream of a toothache reminds her of the

perils of neglecting one's teeth. This is not surprising, for dreams often prompt prudent reflections on waking life. She makes an appointment for a check-up that very afternoon. Her reason for going to the dentist could just be the recognition, brought about by her dream, that it is unwise to neglect one's teeth. Alternatively, it could be that the dreamt toothache itself is also among Sugar's reasons to visit the dentist. Suppose that she believes the cause of her dreaming a toothache to be the poor state of her teeth. If dreams can guide us about our waking needs, it should not be an accident that they do so. It is not an implausible hypothesis that a person with tooth decay is more likely to have anxious dreams about her teeth than one whose teeth are in good health. Sugar's dreamt toothache, like the real toothache which hits her on the way to the surgery, tells her that a molar on the lower left side is in urgent need of repair. However, to draw that inference, Sugar need not assume that her dreamt toothache was a toothache felt during sleep.

Should Sugar be inclined, in a moment of theoretical extravagance, to populate her sleep with a felt toothache (or, worse, a 'subconsciously felt' toothache) acting as an intermediary between rotten tooth and dreamt toothache, she would need evidence to identify the dreamt toothache with its hypothesized cause (a toothache felt in sleep). The identity is not sufficiently established by an association between what she appears to remember and the rotten tooth which caused it. For the fact that she appears to remember a toothache must be weighed against the fact that she appears to remember it having occurred during an Arctic expedition. Suppose some further evidence is found. Suppose that, just before she awoke, Sugar's tooth is struck by a cold draught from the window which makes her countenance darken, jaw tighten and lips quiver. Overlooking, for a moment, that she appears have felt the toothache when eating ice cream with the Eskimos, we might take this

evidence to confirm that Sugar's dreamt toothache is a remembered toothache. All the same, the point is not whether there *could* be cases in which experiences are remembered from sleep. The point is not even whether there are *in fact* cases where events dreamt are events remembered from sleep. The point is that these cases are *exceptions* to the typical phenomenon of 'telling a dream'. After all, the fact that Sugar remembers her toothache does not show that, when suffering the pain during the moments prior to waking up, she believed herself to be in the vicinity of the North Pole, driving a team of Huskies, and heading for the warmth and comfort of her igloo. Rather, the evidence that she appears to remember feeling the pain during an Arctic adventure calls in question the supposition that the nocturnal irritation of her tooth caused her apparent memory by way of a toothache felt during sleep.

13. Our attitudes towards beliefs, intentions, sensations and so on, differ according to whether these phenomena are supposed to be the content of a dream narrative.

The hypothesis that beliefs and intentions are remembered from sleep is disconfirmed, not merely by observations of sleep, but by what does or does not follow in subsequent waking life. Among the subsequent waking events which disconfirm the hypothesis of beliefs and desires remembered from sleep are further mental phenomena. When a person tells a dream, we do not *expect* events to follow as if he has seemed to see and tried do things during sleep. When a person tells a dream, we do not adopt the same *attitudes* towards him as we would if he had.

Few points in recent analytic philosophy are ever argued with the scathing rhetorical wit with which Bouwsma (1957) contrasted our attitudes towards the mental life of our dreams with the embarrassment and shame of a person

who has discovered himself to be deceived. Something of the flavour of Bouwsma's lampoon "On Many Occasions I Have In Sleep Been Deceived ..." is found in Shaffer (1984), and its rising tone of barely suppressed exasperation is echoed in Mannison's (1977) parting jibe at Curley (1975):

> "If it should turn out that every night during the war Churchill had dreamt that he was a German spy, are we to conclude that 'throughout the war' Churchill frequently *believed* that he was a German spy? Shall we decide that: he had contradictory beliefs; he had a dispositional belief that he was not a spy contradicted by a series of occurrent beliefs that he was a spy; that he held one set of beliefs during the day and another set of beliefs during the night; he had a dispositional belief that he was a spy and a series of occurrent beliefs that he was not a spy; he had contradictory dispositional beliefs; he had a dual *personality*; he *wanted* to be a spy but never got round to it; he *wished* to be a spy but did not know how to go about getting himself recruited; he *intended* to take up spying for the Germans but was too busy pursuing the war against them; he *wished* to be a spy but was *irresolute*; he was a *gullible* old coot who, much to his *relief*, discovered each morning that he had been too easily *convinced* that he had traitorous tendencies?" [p. 81].

The point is, of course, that the inference from telling a dream to beliefs and intentions during sleep is thoroughly incoherent with our ordinary notions about beliefs and intentions. The conclusion which these philosophers drew was, not merely that the hypothesis that dreams are hallucinations is false, but that it is inconsistent with our ordinary talk about dreaming.

Augustine took seriously the possibility that our intentions and attitudes in dreams may be sinful. Anthropologists have reported tribes that conduct serious trial about offences committed in dreams. And it is undoubtedly true that the dreams a person has to tell may reveal features of his character

deserving censure or praise. Even so, there are clear differences among the moral judgments we suppose it reasonable make according to whether a person was dreaming or reacting to illusory events. Lustful Richard may disgust us when he gleefully relates how he forced his way upon Modest Mildred in his dream. But his enjoyment of dreamt violence is morally distinguishable from his enjoyment of an actual rape; and it is also distinguishable from his enjoyment of what he mistakenly believed to be rape. If he had jumped on Mildred during the night supposing her to be unwilling (though in fact she wanted it and enjoyed it, or so the Judge insisted) our opinion about his just deserts would be very different from that following upon his having dreamt he forced her. The theory that narratives of dreams are different from historical reports only in that the physical objects and events ostensibly referred to are illusory makes unreasonable any distinction drawn between what follows from mental attitudes and reactions to events according to whether these events were illusory or were events in a dream.

The fact remains that what a person dreamt does have some implication for our judgments about his character. We may not console Sugar for her dreamt pain nor abhor Richard's dreamt intentions in just the same way as we would feel for Sugar's real toothache or condemn Richard's nocturnal attempts upon Mildred, but what a person dreams is not nothing, it does make a difference. This does not entail that dreams are something other than what story a person is inclined to tell upon awakening, stories from which we can draw interesting conclusions about his worries, motives, ambitions and so on in waking life. Our ability to draw such inferences suggests the existence of a kind of process occurring during sleep which explains how his character and history come to be reflected in the stories he is disposed to tell upon awakening. This process we commonly call 'dreaming'. But our reasons for supposing that 'telling a dream'

is the exercise of a psychologically significant disposition do not show that he *remembers* anything about the production of that disposition during sleep.

14. Where discontinuity between dreams and waking life dispels the 'apparition' of remembering past perceptions and actions without investigation beyond the immediate context of awakening, it does not justify an inference to some other mental phenomenon (e.g. seeming to see or trying to do) remembered from sleep.

So far, I have argued that the similarity between telling a dream and remembering events witnessed and deeds done goes no further than the immediate awakening phenomenon of relating a narrative in the past tense without invention. The wider context of what happened in the bedroom during the night and of what the dreamer subsequently does and says upon awakening contradicts the hypothesis that telling a dream is remembering what one seemed to see and tried to do. Our reactions and attitudes to dreams also suggest that, notwithstanding our readiness to assent to the Received Opinion, we do not *believe* dreams to be hallucinations remembered from sleep.

There is reason to suppose that, even within the immediate context of awakening, we do not usually believe ourselves to be remembering what we seemed to see and tried to do during sleep. Clearly, the fact we do not look for evidence beyond our capacity to relate without invention a narrative ('I saw, I did ..') which superficially resembles a report of events witnessed *does not* show that we take our words at face value to be about events seen and deeds done. Nor does it show that we take ourselves to be undoubtably remembering what seemed to us, during sleep, to be happening. Rather, the fact that we do not ordinarily look for evidence beyond the narrative of a dream also shows that we *do not* take it to be about what a person seemed to see and tried to do

during sleep. For if we did suppose a dreamer to be remembering hallucinations, we should require an explanation of what caused his false perceptions and why he was not disposed to act as one hallucinated.

The similarity between telling a dream and remembering events witnessed and deeds done is not sustained even within the context of awakening. In the usual case, no one is fooled, even for a moment, into mistaking our 'memories' of dreams for memories of what we saw and did. If we are generally fooled by the similarity it is in our willingness upon reflection to assent to the proposition that dreams are 'experiences' remembered or forgotten from sleep. Even this tendency to homespun theoretical reflection has, as Malcolm argued, little or no practical effect on our everyday conduct. The only significant consequence of our assent to the Received Opinion is, perhaps, a predilection for anthropomorphic interpretation of the results of psycho-physiological sleep research.

In the usual case, a person immediately recognises his impression of a dream for what it is, and could, if he chose, precede his narrative with the qualification 'I dreamt ...'. How is this possible? Does the reason we have for spontaneously discounting as fictitious our inclination to tell a story in the past tense give us a reason for assuming that we hallucinated the adventure narrated? Or is it, rather, that we have grounds confidently to disregard any thought of past perceptions, real *or illusory*, without further investigation?

The traditional explanation given by philosophers is that, whilst dreaming is 'like' waking life, the adventures of a dream are generally discontinuous with what we know of waking life. This discontinuity, philosophers have agreed, is not difficult to detect when we wake up. Philosphers have, of course, been troubled to say whether or not a test similar to that of discontinuity, a test of incoherence, could be relied upon by a person whilst he is yet asleep (with or without the aid of a benevolent deity). For

narratives of dreamt events which are discontinous from waking life not infrequently exhibit *internal* coherence. Philosophers have usually supposed that there is nothing intrinsic to an object being dreamt that makes its appearance distinguishable from an object perceived. This supposition of the traditional sceptical argument is not (directly) my concern; but I'll observe in passing that it is not clear how it is justified. Hunter (1983) argued that the premise rests upon an assumption that if there were a difference between objects dreamt and objects perceived we would have noticed it. He suggested some interesting ways in which this assumption might be questioned. However, the test of discontinuity has usually been thought sufficient where one is awake and the events of a dream, even be they internally coherent, are compared with one's impressions of waking life before falling asleep and upon awakening.

Sometimes, upon awakening, people do mistake dreams for waking life. Dement (1967) (1972) describes the practical problem faced by narcoleptics, victims of sudden and irresistable sleep attacks. These attacks do not last long, but their victims tend to pass very quickly, without the usual physiological preliminaries, into Stage REM sleep, and frequently awake with dreams to tell. Often enough, these dreams are of a fairly prosaic character, their content reflecting the recent concerns and experiences of the dreamer. The narcoleptic's inability to rely upon the usual cues which intimate the onset of sleep easily leads him to mistake his dreams for what was recently going on. He does not realise that he had suddenly 'dropped off' and readily mistakes it for a memory of events witnessed and deeds done. The problems which beset narcoleptics serve to remind us how infrequently, in the normal course of sleeping and waking, we mistake dream narratives ('I saw, I did ...') for memories of their ostensible contents. In part, this is because we are familiar with our liability upon awakening to have waking impressions as if of events

witnessed which are unreliable guides to what went on whilst we slept. Unlike the narcoleptic, we are well aware of the fact that we have just been asleep and are quickly able to judge the discontinuity of our awakening impressions of dreams from what we remember of events preceding sleep. More elaborate tests, like looking under the bed, consulting the neighbours, or phoning the local zoo, are not required.

The 'discontinuity' of Fester's dreams with the particular course of her own waking life, with what is likely and probable in her dreary suburban character, in her dreary suburban neighbourhood, is sufficient to explain how, even in the immediate context of awakening with a dream to tell, Fester does not mistake dream for real life. Fester does not stop to look beneath the sheets for the handsome prince of her dreams. Nor does she check for sooty smudges left by the Coalman whom she might have mistaken for a handsome prince in the night. "I'd rather have a memory than a dream ...", Fester sings wistfully to herself (she does a fair Judy Garland imitation), for she knows the difference all too well. She does not begin to investigate the hypothesis of perceptual beliefs (true or false) during sleep because the beliefs of her dream are too incongruous with what she knows of waking life to warrant such labour.

Obvious discontinuities between the adventures of dreams and one's perceptions and memories of waking life are usually sufficient to belie the appearance of remembering events perceived without further investigation. If these discontinuities raised, as it were by default, the hypothesis of hallucinations during sleep, we would have reason to look for evidence of false beliefs and frustrated intentions. The fact that we ordinarily do not attempt to explain away these facts about sleep, or look for exceptions to the norm, suggests that the obvious discontinuities between events dreamt and events

remembered, do not lead us to infer that we are remembering what we seemed to see and tried to do.

The fact that, even within the immediate context of awakening, we have sufficient reason to see straight through the resemblance between telling a dream and remembering events witnessed is not itself reason to raise the hypothesis that something else *is* remembered. If nonetheless we supposed, without reason, that something is remembered that supposition should be shown in our anticipation of evidence apart from the phenomenon of 'telling a dream'. The fact that we do not ordinarily look for extraordinary evidence of what a person was disposed to say and do during sleep, or attempt to explain away the obvious behavioural evidence, shows that we do not infer that he remembers what he seemed to see, tried to do, thought, imagined, felt, intended or any such mental phenomenon encountered in waking life.

15. The fact that events of a dream are often improbable, even to the extent that they defy the laws of nature, tells against the hypothesis that these events happened, without the need of external evidence; it also tells against the hypothesis that the dreamer previously believed such events to be happening, for we have no plausible explanation of how such incredible events might come to be believed, certainly not when they occur in conjunction with observations and calculations exhibiting an extraordinary degree of rationality.

Hume famously argued that we should reject testimony of miracles upon the intrinsic improbability of the events reported, even should the testimonial be given by one of undoubted sincerity and general credibility. Suppose that our impressions of past events are so unfailingly reliable that, for most practical purposes, our genuine memories may be regarded as self-intimating, wearing

their credentials up-front. Suppose that the general reliability of such 'memories' makes it highly probable that, in any given case, a person's sincere testimony of events witnessed is true. Even so, in any particular case, the very great improbability that a person be mistaken must be weighed against the intrinsic improbability of the events he appears to remember. Where someone appears to remember something which is so improbable as to be thought miraculous, there is always sufficient reason to doubt that his memory is reliable.

The fact that the events of a dream narrative are often improbable, even to the extent that they contradict the most familiar laws of nature, gives us reason to doubt that we remember such events without any further need to check what happened whilst we slept. Indeed, the fact that dreamt events are often so *incredible* counts against the inference to any ordinary kind of perceptual mistake. If dreams are delusions, they are not delusions of any modest proportion. It would be quite inexplicable, in the normal course of life, how someone of Churchill's character and history could come to believe, whilst lying in bed, that he was a German spy. It would be inexplicable how *anyone* in *any* circumstances might come to believe that he was flying, talking under water, juggling with the stars or such like. Yet such fantastic things happen quite ordinarily in dreams.

It is question-begging to suppose that dreaming gives us a model for explaining how someone might have believed events which are intrinsically improbable. Unless we have some explanation of how a person might have believed the incredible, the fact that the events of a dream narrative are bizarre and improbable gives us adequate reason to assume, with no further investigation, that the narrator no more seemed to see than saw such events. As things are, we have no analogy at hand which might support the hypothesis

that a person remembers seeming to see things which no one could reasonably believe.

Computer assisted simulations of Gulf war air attacks, deep-sea diving missions, moon-buggies and the like have begun to give technical substance to the imaginations of sceptical philosophers. But if dreams are delusions, we still have no idea how such sophisticated delusions might be brought about. Bouwsma (1947) illustrated our inability to imagine in any detail how an Evil Genius might set about to systematically delude a person *even where* the sequence of events is entirely natural and coherent with our general knowledge of the world. How is one to invent something of such devilish cunning that the deception is never suspected? Bouwsma's attempt to imagine how the Evil Genius would proceed quickly runs into difficulty. Paper dolls aren't quite enough like the real thing to fool a lover for long. The problem isn't that the Evil Genius hasn't power enough, that he hasn't the money, time and industry. The problem is that we haven't any explanation of *how* his powers are to be employed. In the end, all Bouwsma found himself able to imagine was that the Evil Genius employed his power to substitute one set of objects and events for another qualitatively identical set. The victim of this monstrous ingenuity cannot tell the difference. But, Bouwsma questioned, is he deceived?

Our problem is not to say whether a person placed in another qualitatively identical world is deceived in his beliefs. Our problem is to explain how any circumstances might bring a person so much as to believe in events which defy the supposed laws of nature, and to explain this with sufficient plausibility to invite investigation beyond the immediate context of 'appearing' to remember such events. Even if substitution of an identical world were an explanation of systematic deception, and (let's pretend) were the sort of nocturnal devilry a person might hesitate to discount without further investigation, it would not

explain how a person might come to have believed during sleep what he cannot reasonably believe to have happened upon awakening. The intrinsic improbability of many of the events one often appears to remember upon awakening is sufficient to immediately dispel any illusion either that one saw or that one seemed to see such events in the past, without any further investigation of what went on in sleep. My point is not that it is impossible to believe the kinds of things that a person seems to remember having perceived but that, given what we know about the kinds of things people believe and how they come to believe them, it is entirely improbable, from the intrinsic character of the narrative itself, that a person ever so much as believed the unnatural sequences of events that often crowd his awakening narratives.

Illusionists can make it look as if the impossible is happening. But the arts of an illusionist give us no explanation of how someone might be so taken in as to *believe* that the miraculous is happening. Confidence tricksters show us how weak-willed people can sometimes come to acquire thoroughly crazy beliefs. Religious conversion beats everything (even philosophy) when it comes to finding a model for a person adopting the most improbable beliefs. But when faced with the professions of the Miraculously Converted we are likely to question how someone could possibly *believe* what he claims to have witnessed. We look for ways of understanding what he says which take the belief out of his 'beliefs'. He is expressing an attitude of faith. His words have a symbolic significance. Some such story. Not that he is remembering what he seemed to perceive. That anyone might *seem* to perceive such incredible events is almost as incredible as that anyone might have perceived such events.

A crazy person may, of course, readily be supposed to believe what normal people find incredible. That's what makes them crazy. The fact that a person telling a dream often appears to remember having believed the most bizarre

and unnatural things might be offered as evidence that sleep renders a person temporally irrational. However, any weight this evidence has must be balanced against the observation that we often appear to remember having demonstrated the utmost reason and clarity of mind amidst our most fabulous adventures. This observation is made in a marvellous passage from Dostoyevsky:

> "Sometimes one dreams strange dreams, impossible and unnatural, and upon awakening you remember them very clearly and are amazed by a very strange thing. You remember before anything else that your reason did not desert you throughout the whole dream: in fact you remember that you acted with extreme cunning and logic throughout ... You remember all this clearly. But how in the same space of time can your reason be reconciled with the manifest absurdities and impossibilities with which your dream was filled? One of your murderers changed into a woman before your eyes, and from a woman into a clever loathsome little dwarf - and you accepted all this instantly as absolute fact with hardly any surprise at all, and precisely at the time when otherwise your reason was at its highest pitch and showed extraordinary power, cunning, clarity, and logic." [Quoted in Foulkes (1985) p.12, from *The Idiot*]

Those aspects of the intrinsic character of dream narratives which lead us to distinguish them from memories of events seen and deeds done, also give us reason to doubt that we are remembering what we seemed to see and tried to do. In some respects, even in its immediate appearance, telling a dream is typically quite unlike remembering either what one saw and did *or* what one seemed to see and tried to do.

PART ONE

WHAT APPEARS TO BE REMEMBERED

CHAPTER TWO

THE UNIMAGINED AND THE UNIMAGINABLE

1. There are two versions of the hypothesis that, in telling a dream, a person remembers what he imagined during sleep.

In the previous chapter, I challenged anyone to say why we should believe a person to remember anying if it is not the events and deeds he appears to remember. The appeal of the hallucination theory was that seemings and tryings are by far and away the most obvious substitutes for the ostensible referents of a typical dream narrative. It seems to me that any other mental acts postulated to explain the occurrence of our awaking impressions would be too unlike what we typically appear to remember for it to be plausible to identify them as 'dreams'. Still it is open for someone to propose an alternative characterisation of what, in telling a dream, a person remembers. Some philosophers have been tempted by the idea that, at least in some cases, dreaming is akin to vivid imagining or earnest pretence, that it is like watching a film, being caught up in the action of a novel, 'method' acting, or some such mental activity akin to perception except that belief is suspended.

There are two versions of the hypothesis that, in telling a dream, a person recalls what he imagined during sleep. According to the first, a person telling a dream remembers what he vividly imagined as such; he remembers *that* he imagined the adventure, he remembers having entertained it without belief;

he recalls, perhaps, that he was lying motionless, eyes-closed in his bed. According to the second, a person telling a dream remembers (or misremembers?) what he vividly imagined *as if* he had believed the adventure to be happening, whether or not he is under the misapprehension that he now recalls seeing or seeming to see.

It is the second version of the hypothesis that promises a general defence of the Received Opinion that telling a dream is remembering 'experiences' from sleep. For the proposition that a person remembers *that* he imagined the events of his dream is true, if anywhere, only in exceptional cases of telling a 'lucid' dream. Even those who, like LaBerge (1986), have sought to show that the phenomenon of 'lucid dreaming' is more widespread than traditionally supposed, have not for a moment questioned that, in the ordinary case, dreams are remembered as if one had believed the events of the dream to be real. Of course, the second version of the hypothesis, the proposition that a person remembers (or misremembers?) events imagined *as if* he believed the events to be happening at the time he imagined them, must be established by inference from evidence appart from his awakening 'recollections'. We are not invited simply to take the narrator of a dream at his word about what happened during sleep. For the proposition is that, in some sense, he *appears* to remember that these events happened, though in fact they were imagined. The appeal of the hypothesis that dreams are imaginations lies not in the positive evidence of our awakening impressions but rather in the seeming invunerability of that hypothesis to the behavioural evidence which tells so heavily against the hypothesis that dreams are hallucinations.

The temptation of the hypothesis that dreams are vivid imaginings is that it seems to offer a defence against the charge that a person asleep does and says none of the things one would expect of someone who believes himself to be

caught up in the adventures of a typical dream narrative. It is not unusual that a person imagining events should lie quietly with his eyes closed. A person may be wrapt up in his reverie, so that it is difficult to distract him by questions about what is going through his mind. An interuption may sometimes prove so disruptive as to drive a person's musings right out of mind so that he cannot easily say what it was that he contemplated. It also seems more plausible that a person may imagine having beliefs and desires entirely incongruous with his everyday beliefs and desires than that he have them, especially where these beliefs and desires are, in many respects, crazy. It is a mystery how someone might seem to see the green grass below and blue sky above when he has his eyes closed, it is pitch dark and he is lying in bed. What could substitue for the complex systematic patterns of retinal stimulation provided by light-rays reflected off the trees, the children running through the park, the ducks in the pond? But it is no wonder that someone *imagine* a brass band marching past, a view from the gazebo and every detail of a simply lovely picnic, whilst slumped on the sofa looking at nothing.

What's the game? To avoid disconfirmation? Or to find something that is remembered? If one were defending the hypothesis that a person remembers the events he is spontaneously inclined to relate, the burden of proof might lie against the doubters. That is not the hypothesis suggested here. What is suggested is that, in some sense, a person telling a dream appears to remember events perceived (allowing that we may see straight through any such 'apparition'). It is not suggested that he appears to recall events imagined. Rather the hypothesis is that 'despite appearance' he in fact remembers events entertained without belief; the hypothesis explains away the appearances (even though the appearance does not ordinarily mislead anyone). The hypothesis that he in fact remembers events imagined cannot be

established by simply asking the dreamer what he remembers or appears to remember. If what a person superficially appears to recollect establishes the burden of proof, then that burden lies against the hypothesis that he remember events imagined.

The challenge is not to construct a hypothesis which *could* be true and which sidesteps the objection that dreams are not hallucinations. The challenge is to offer evidence that something which happened during sleep, some 'experience' more akin to imagination than perception, occurred during sleep and is remembered upon awakening. The hypothesis that we remember or misremember events imagined *as if* we had perceived them has no virtue unless it is supported by evidence that we imagined events during sleep corresponding to the events we appear to recall upon awakening. But the most cursory reflection upon what a person was disposed to do and say tells heavily against the hypothesis that he imagined the adventure he is inclined to relate upon awakening. If there is evidence of imagination in sleep corresponding to what a person appears to recall it is to be found in cases of 'lucid dream' reports where a person appears to recollect thoughts and intentions directed towards images vividly but unbelievingly entertained.

So far, I have played rather fast and loose with the contrast between what a person appears to remember and what he remembers. It is time I made myself a little clearer about how a person may be said, in some respects, to appear to recall events witnessed and deeds done whilst not being under the slightest illusion that he remembers such events and whilst even believing himself to remember something quite different, perhaps what he vividly imagined.

I suppose that a person could remember events imagined without supposing that he ever saw, seemed to see, imagined or in any manner entertained the idea of such events happening. A person may have an 'impression' as if of

events witnessed without supposing himself to recollect perceptions, thoughts, images, sensations or any such mental acts or events. That is, he may find himself able to relate, without invention, a narrative as if of events witnessed, without taking the narrative at face value as a description of historical events. Perhaps, but not necessarily, this ability may be accompanied with a rich Humean phenomenology of more or less vivacious and forceful imagary, feelings of familiarity, or whatever the inward gaze is supposed to reveal. If the content of his narrative corresponds to what in fact he imagined, he may be said to remember what he imagined, even though he does not remember that he imagined any such thing.

A person who recalls events imagined as if he had credulously perceived them need not but could judge (falsely) that he perceived these imagined events *from memory*. But a person could not judge *from memory* that he imagined what he remembers as if he had perceived it. Where a person spontaneously discounts images or words which come to mind as if he were recollecting events witnessed on the grounds of its obvious discontinuity with the bulk of what he appears to recall or on the grounds of his general knowledge of natural improbabilities it may be inappropriate to draw a contrast here between what he infers and what he appears to recollect. A person may remember images as if he were recalling perceptions whilst seeing straight through the 'apparition' of recalling perceptions. Equally, should he fail to discount his impression he may suppose himself to remember having perceived without inferring that he perceived. His mistaken judgment that he perceived may be said to be a mistake of memory, not merely a mistake of inference. However, I do not see how a person who remembers events imagined as if he had credulously perceived could take himself to remember without *inferring* that he imagined from independent observations of what he did and said during

sleep. The contrast between memory and inference, I am prepared to admit, is not as sharp as philosophers have often supposed. But here, it seems to me, that it is entirely appropriate to invoke the contrast between a judgment from memory and a judgment by inference. A person could not recall that he imagined what he remembers as if he perceived it.

2. Even supposing that, in a typical case of telling a dream, images (together with thoughts and intentions about them) are in fact remembered from sleep (either as mere representations or as credulous perceptions) it does not follow that *dreams* can be identified with what was imagined (and thought or intended about such images)

An objection which touches either version of the hypothesis that, in telling a dream, a person remembers thoughts and intentions about images passing before his mind during sleep is that neither is clearly a defence of the hypothesis that *dreams* are remembered from sleep. Even supposing that images (together with thoughts and intentions about them) are remembered from sleep when we tell dreams, it does not follow that the content of our narratives ('dreams') can be reduced to such images, thoughts and intentions. There could be grounds to identify dreams with imaginations remembered. The prospects for such an identification seem more promising where a person 'telling a dream' at least appears to remember the images entertained without belief in the events and actions represented by them. But even here, there are reasons to suppose that what we appear to remember when we tell a dream typically transcends what is or even could be represented by the images, thoughts and intentions which we remember from sleep. An examination of our beliefs about dreams, the properties we attribute to them, the knowledge we suppose we have of them, shows that our ordinary concept of what is dreamt is too unlike that of what is

imagined and thought to bear identification. If we appropriated the word 'dream' for images remembered from sleep, we would have to find another word to characterise the content of what a person typically appears to remember upon awakening where he is not remembering anything from waking life.

What a person dreamt cannot be reduced to what he thought and intended about images passing through his mind during sleep. A typical narrative of a dream consists in much more than a person could know of his thoughts, images and intentions, even supposing he had perfect recall of them. Evidence that we remember imaginations from sleep might be taken to show that, in telling a dream, images, thoughts and intentions are *misremembered* upon awakening as if the images had a representational significance beyond the dreamer's thoughts and intentions; misremembered as if the objects and events of the dream thus represented took place among other objects and events not imagined. It would by no means follow from the fact that a person telling a dream co-incidentally remembered vivid imaginations from sleep that *during sleep* the dreamer entertained these images as representations of objects and events beyond the significance given to them either by their sensible appearance or by his concurrent thoughts and intentions about them. Even if the narrator remembers images,thoughts and intentions occurring during sleep, no account is provided of his apparent knowledge of the objects and events of a dream beyond his remembered interpretation of and invention upon images. A person's avowed 'knowledge' of the objects and events of a dream which transcends the content of remembered images, thoughts and intentions is not accounted for as knowledge of something which happened during sleep.

3. In some respects, telling a dream is more like saying what one presently imagines than reporting historical events.

The argument of this chapter is not that the analogy between dreaming and imagining is entirely misguided. The analogy between telling a dream and saying what one presently imagines is a useful corrective to the analogy between telling a dream and reporting historical events. Similarily, the analogy between telling a dream and saying what one previously intended, in circumstances where nothing in a person's behaviour nor in what passed through his consciousness shows what he intended, provides a useful corrective to a perceptual model of remembering one's own 'past' states of mind. But none of these analogies provides a satisfactory model for explaining telling a dream as a remembering what one was aware of during sleep.

Malcolm drew an analogy between dreaming and imagining:

> "In general the expression 'I dreamt', as we use it, serves as a sign that the ensuing narrative of incidents in sleep is to be taken in this special sense, namely, that it will be inappropriate to request grounds for the statements that compose it. One could say: we accept the narrative without proof, not because we assume it will be true but because the concept of truth that applies here has nothing to do with proof. In this respect telling a dream is like imagining something ('You are the mama tiger and I am the baby tiger'). It is unlike in the important respect that in it there is no place for inventiveness, for changing one's mind, for having things as one will. One tells a dream under the influence of an impression - *as if* one was faithfully recalling events that one witnessed. Telling a dream is undoubtedly a queer phenomenon"(1959, pp. 85/86).

Malcolm took the exclusive authority of sincere first person narratives of dreams to constitute a distinction between dreaming and other psychological phenomena:

> "...if anyone holds that dreams are identical with or composed of, thoughts, impressions, feelings, images, and so on (here one may supply whatever other

> mental nouns one likes, except 'dreams'), occurring in sleep, then his view is false." [p.52]

What then are dreams? What mysterious kind of mental event occurs during sleep about which we can have no evidence other than evidence about what the subject is inclined to say upon awakening? Malcolm thought such questions to be "metaphysical" and unanswerable. The urge to ask them is symptomatic of a failure to reflect on our actual practice of telling dreams:

> "...I am not trying to say what dreaming *is:* I do not understand what it would be to do that. I merely set forth the reminder that in our daily discourse about dreams what we take as determining beyond question that a man dreamt is that in sincerity he should tell a dream or say that he had one." [p.59]

The distinction on which Malcolm insisted, between reports of events one has perceived and narratives of dreams, lies not in the causal properties of dreams and perceptions, nor in the cognitive mechanisms by which we detect them. The distinction is 'logical' or 'grammatical' and is meant to be transparent in our practices of accepting, doubting, and justifying stories which have the same superficial form of expression ("I saw, heard, felt, thought . . . ") and an often strikingly similar narrative phenomenology (that of faithfully describing an impression of one's own past perceptions, thoughts and feelings). Malcolm distinguished between the 'dream-telling' and 'historical' uses of first-person past-tense psychological sentences. It is a distinctive feature of the dream-telling use that, whatever the content of the sentence, it is inconceivable (barring slips of the tongue or misunderstanding of the language) that a person's sincere awakening narrative be mistaken about his dream.

4. Even were incorrigible or infallible retrospection possible, the perceptual model of imagination could not account for the knowledge we have of objects and

events dreamt beyond anything that might be inferred from the sensible qualities of images before our minds.

My objections to the identification of the ostensible referents of dream narratives with objects imagined are twofold. Firstly, my objection is that it is precisely the similarity indicated by Malcolm between telling a dream and saying what one presently imagines (namely, that what one sincerely says, given that one attends to the question, is not distracted and expresses oneself competently, is ordinarily taken to conclusively establish what one imagines) which calls in question the hypothesis that one is *remembering*. As Malcolm pointed out, in support of his contention that dreams are 'remembered' in a special sense of the word, there is nothing analogous in our practice of telling dreams to the justifications that might be given for the reliability of a person's *memory* of what he imagined. Secondly, my objection is that the analogy between dreaming and imagining is often drawn on the questionable assumption that (at least where images come to mind, as it were 'unbeckoned', without invention or control) saying what one imagines is like describing the sensible qualities of a scene or interpreting 'what is going on' in a picture (except that the scene and one's mode of viewing it are peculiar in that no one else take a look and, so it would appear, one's own view is infallible). It is this second objection which I wish to develop in this chapter.

My objection to the introspective account of a person's capacity to say what he imagines is not that the notions of incorrigibility and infallibility are *unfounded*, and should be replaced by some alternative notion of access (perhaps analogous to our normally reliable perceptual contact with the theoretical objects investigated by scientific means). There are good Wittgensteinian reasons to think that the very notion of 'access' is inappropriate to the relationship between a person's capacity to say what he

imagines or what he dreamt and the facts about what he imagined or dreamt. However, for the time being, I am prepared to go along with the supposition that we commonly take ourselves to know incorrigibly and infallibly 'what went on in a dream'. My present objection to the analogy between telling a dream and introspection of images or other 'items of consciousness' is that, even were incorrigible and infallible introspection possible, it would not account for our knowledge of the kinds of things which ordinarily compose a narrative of a dream. The argument of this chapter is not that dreaming bears no comparison to imagination but, rather, that the attempt to explain the similarity between telling a dream and saying what one imagined in terms of 'inner perception' cannot account for the knowledge we appear to have when we relate the adventures of our dreams, even supposing that our memories are entirely reliable about the sensible qualities of the images that passed before our minds during sleep.

Hunter (1976) pointed out a puzzling feature of dreams which he took to suggests that "it is somehow not on the basis of what we experience while asleep that we tell our dreams" [p.128]:

> "A puzzle may emerge ... if we ask how it is that, on the basis of the incomplete and peculiar fragments that are given in a dream, we so matter-of-fact report as it were a fully-articulate incident or sequence - being chased by a tiger, seeing an interesting roof, having an absorbing conversation - rather than perhaps as 'racing through nothingness pursued by a tiger's head', 'seeing a roof on a house that neither did nor did not have windows and doors', or 'having a conversation with a voice out of nowhere'." [p.128]

Hunter's attempt to characterise the contrast between the apparent sureness and completeness of our knowledge of dreams with the paucity of the visual, auditory, tactile images we have in mind, emphasises the inadequacy of the

'inner theatre' model. Hunter suggested an alternative model for dreaming, the model of a 'raconteur' who illustrates his story with what, to the unenlightened onlooker, appears to be a collage of fragmentary impressions capable of bearing any number of equally doubtful interpretations; but the raconteur himself would not have to interpret these fragments in order to tell for certain what they meant.

Hunter warned that he had no wish "to add the raconteur to the *homunculi* with which the human psyche is sometimes populated". The point of the notion of a raconteur is negative. Its point is to free us from "the idea that dream tellings are a special kind of eye-witness report" [p.129], that "truthful dream tellings are derived from the passing (inner) show" [p.130]. Hunter's objection was not that the 'inner show' model is incoherent (though he may well have supposed it to be incoherent). He argued that, even if logically private experiences were possible, the perceptual model could not serve to explain our knowledge of dreams.

5. The perceptual model of memory and imagination makes it look as if a person's judgment about the inadequacy or incompleteness of his own narrative of a dream were answerable to something independent of what he is sincerely inclined to say.

I take it to be a virtue of the analogy drawn by Malcolm between telling a dream and saying what one imagines that it emphasises the peculiar authority we ordinarily attach to a person's account of his dreams. It is a shortcoming of the perceptual model that it fails to account for this authority. The model suggests that a person's best account of his dream, whilst incorrigible, is not infallible. And it makes it look as if its incorrigibility were a contingent matter, an accident of our condition, a potentially removable obstacle to human

understanding. It seems to me that the connection between what a person dreamt and what he says is misrepresented by the fiction of incorrigibility. In one important respect, the connection between what a person dreamt and what he is able to say of it without invention or inference is *better* characterised by the fiction of infallibility. For it is nothing other than a person's judgment that his narrative is an 'inadequate' or 'incomplete' account of a dream that makes it look as if the narrative is fallible.

First hand witnesses of events sometimes exhibit their memory of what happened in a manner quite unlike that of someone who merely knows the facts about what happened. When asked about the details of what went on, the expression of a face, the colour of her eyes, the cut of her dress and so on, an eye witness will often attempt to conjure images of what he saw, as if he were re-creating his visual field in order to 'have another look' into the past. It is as if the image enables the witness to observe details which had previously escaped his notice, as if he were discovering what had happened. This picture of remembering as a form of perception, an original source of knowledge, has tended to distort philosophical theories about memory. The analogy with looking at a photograph of a scene captures an aspect of telling a dream. But the differences are more numerous than the similarities. The differences are not exhausted by the obvious point that there is no analogy to the comparisons we routinely make between various observations and records of the same scene, that the dreamer's account of his dream is never checked against evidence apart from what seems to him to have happened.

The analogy suceeds in suggesting that, in telling a dream, one chooses one's words *as if* responsible to something independent of what one says. Telling a dream demands care and attention. A casual attitude leads to mistakes which could, in principle if not in practice, be corrected by reference to what one would

have said if one had considered the matter more carefully. Telling a dream is quite unlike making things up or having them at one's will. The analogy also succeeds in pointing out that sometimes, very often in fact, a person is dissatisfied with his attempt at a narrative. He may be able to improve upon his first attempt. But often he is not able to do so, or cannot do so to his own satisfaction. He remains frustrated in his efforts to 'put the dream' into words. Sometimes, this frustration reflects the strangeness and mystery of the events of a dream. Sometimes this frustration reflects the notorious tendency of dreams to 'melt and fade' upon awakening. The introspective account tends to lose sight of the fact that the measure of a person's frustration with his own best efforts to tell his dream is nothing other than his own impression of the dream. That his words are 'inadequate' to the dream is itself a feature of his considered narrative.

The perceptual analogy tends to distort the fact that dreams are often strange and uncertain. It makes it look as if there could be some intelligible account of the dream only the dreamer's capacity for comprehension, interpretation or expression is inadequate to the task. It makes it look as if a person's best narrative of a dream, whilst unquestionable by any conceivable observations we might make, is far from infallible. Sometimes, of course, we do look for intelligable interpretations of the strange events of dreams, interpretations which are supposed to explain away their mystery. But here we are giving an interpretation of what a dream means or an explanation of what causes us to dream what we do, not an account of what the dream is. The starting point or material of this interpretive exercise is what a person is able to say without invention or inference. Sometimes we censure a person for anticipating an interpretation or explanation in his telling of a dream. Some theorists are worried that the practice of psychoanalysts tends to collapse the

distinction we ordinarily make between telling and interpreting a dream; but it is supposed by most psychoanalysts to be no clinical disadvantage that the 'manifest dream' told on the couch is, in some measure, an artifact of the programe of analysis. In ordinary practice, however, we take a person's considered judgment that the events of a dream were mysterious or ineffable to be a feature of the dream, either of a feature of the events themselves or of the responses of the characters within the dream.

The analogy with describing an inner picture seems to be adaptable to one of the most striking features of telling a dream, namely, their liability to be forgotten within the first few moments of awakening, even before one is able to say what the dream was about, fixing it more securely for future recall. Freud described this phenomenon with his characteristic eloquence:

> "It is a proverbial fact that dreams melt away in the morning. They can, of course, be remembered; for we only know dreams from our memory of them after we awake. But we very often have a feelimg that we have remembered only a dream in part and that there was more of it during the night; we can observe, too, how the recollection of a dream, which was still lively in the morning, will melt away, except for a few small fragments, in the course of a day; we often know we have dreamt, without knowing *what* we have dreamt; and we are so familiar with the fact of dreams being liable to be forgotten, that we see no absurdity in the possibility of someone having had a dream in the night and his not being aware in the morning either of what he dreamt or of the fact that he has dreamt at all . . . " [Freud *The Interpretation of Dreams* p.106]

On waking up, a person is sometimes convinced that he had a dream, but is unable to say anything as to what it was about. It is as if a rich pagant of colourful figures had just now passed from clear view and suddenly one cannot remember a single detail of the procession. In other cases, images which

accompany one's awakening conviction, whilst often vivid and striking at first, have a remarkable capacity to vanish before one can put any definite words to them.

However, the perceptual analogy misrepresents the relationship between what a person dreamt and his best account of a dream. Unless a person's narrative is contrasted with what he would have said if not distracted or what he would have said if awoken a moment sooner we have no measure of its inadequacy other than what he is inclined to say about it. We have only a person's own impression that his account, whilst incorrigible, is yet fallible. But, in practice, we treat a person's considered judgment that his narrative is inadequate as if it were infallible. What we dreamt is not determined by the images that pass and fade before our minds indepedently of the words which seem appropriate to the dreamer to 'describe' them, given that he was attentive, careful, sincere, competent in the language and in the expression of the words intended. Equally, what we dream is not given by the transitory and fragmentary images independently of one's own judgment of the adequacy of the words which one arrives at.

Whilst telling a dream has some resemblance to describing a fleeting glimpse of a scene, the dream told is not the scene described so much as the dreamer's most attentive impression of it. Who were the character's? What was going on? A dreamer may have difficulty in answering these questions. One usually has the impression that there was more to a dream than one can tell. But where a person promptly and carefully attends to his dream upon awakening , it is nothing but his impression that his narrative is incomplete which establishes that there is more to the dream than the story he relates. It is, of course, hopeless to suppose that a person's 'impression' of the images flitting in and out of view is itself another item on the stage which we might

know by further introspection. Our interest in what a person dreamt would simply be redirected towards our impression of that impression of ... If a dream is an 'impression', this impression is not some painted representation lost to sleep, nor yet some 'memory image' presenting itself momentarily to waking view. It is what a person is able to say without invention, as if he were describing a scene, except, of course, that no scene is described.

6. The hypothesis that dream narratives, whilst ostensibly about events and actions, are in fact memories of what a person imagined during sleep, vividly but without full credulity, fails to account for the apparent representational character of such images.

Boardman (1979) proposed an analogy between dreams and dramas. He was not particularily clear whether he supposed the similarity to lie between representing fictitious events and *telling* a dream upon awakening or between representing fictitious events and *dreaming* a dream during sleep. Boardman's remarks, it seems to me, would best be taken to be about what Malcolm would have called the 'grammar' of telling a dream. He does not give us a model for the explanation of telling a dream but, rather, a characterisation of that 'queer phenomenon' itself. However, Boardman attributed to Malcolm the 'mistaken' conclusion that dream reports are not descriptions of antecedently existing events. I am not sure Malcolm would have accepted this formulation of his conclusion, but I am happy to suppose that this is the conclusion he should have drawn. Boardman suggested that Malcolm's conclusion was a mistake resulting from an attempt to make the reporting of a dream altogether like the writing of a play; but he did not say exactly why it is a mistake to push the analogy so far. Perhaps he had in mind only that, if the conclusion is true, that dreams are identical with the content of our merely apparent memories upon

awakening (subject perhaps to the restriction that these apparent memories have a causation in sleep), it is not a necessary truth of the kind that Malcolm sought to establish. However, taking Broadman's suggestion to be that dreams are entertained by the dreamer during sleep as represention largely independent of his will, one is immediately beset by problems about how the representational properties of images could be known during sleep and remembered upon awakening, even supposing that a person's memory of sensible qualities of the images, together with his thoughts and intentions towards them, is entirely reliable.

Bouwsma (1945) raised some of the fascinating questions that surround the identification of objects and events which figure in descriptions of dreams with their nominal counterparts in descriptions of the perceived world. He questioned Descartes identification of the 'I' who perceives and acts in the dream with the 'I' who lay asleep by the fire. How could the identification be established except by Descartes sitting awake by the fire knowing full well that *this* is the fire he now perceives and *this* is the fire he oft has dreamt? Removed from the context in which that identification can be made and Descartes cannot sensibly question whether *I* who am asleep by the fire am now perceiving *this* fire which I now seem to see and feel.

Boardman explored these issues in more detail, drawing an analogy between dreaming and the authorship of plays in which people from real life, including oneself, may have, more or less, whatever characteristics the author attributes to them, allowing, of course, that "plays are intentionally and deliberately contrived, whilst dreams are not" [p.222]. Boardman concluded:

> "At any rate, except in the case of mistaken identifications which turn on errors regarding the reference of names and definite descriptions, and with the possible exception of self-deception, we do not allow any authority to any

> identifications of any dream-characters save those made in the dream report ... In general we do not allow third party identification of the satirist's targets *because* the representations have been established by the author's intentions. Although there are no parallel intentions of a dreamer which can explain why we do not overrule a dreamer's identification, nevertheless we do not overrule them." [p.223]

If our knowledge of the identities of objects and characters in our dreams is supposed to be knowledge remembered from sleep, we require some account of what during sleep established the identification. We are cautioned, immediately, to rule out the creative process of authorship. If something went on inside R. L Stevenson's head during sleep, which was analogous to what went on when he sat at his desk writing *Dr. Jekyll and Mr. Hyde*, it was not remembered by him upon awakening, it was the inferred cause of his dream, not the dream itself. The dreamer does not, on Boardman's analogy, know what the play is about because, like the playwright, he establishes what it is about by his creative intentions. There is no more reason to suppose that the dreamer decides for himself what the images passing through his mind represent during sleep than to suppose that he makes his mind up upon awakening. He does not seem to be making things up upon awakening, it is true. But neither does he appear to remember making things up during sleep.

Does the dreamer know what is going on in the dream in the way the audience of a play knows what the actors on the stage represent? This does not seem promising. Where is the stage, where are the actors? How is it viewed, how are they heard? Someone watching a play sees and hears something, even though he imagines it to be something else, and may even remember it as if he actually believed it were what he imagined it to be. Some account is required of the medium in which the play is presented and the means by which it is

apprehended. More importantly, even were some account forthcoming about the medium in which the 'inner drama' is staged and the lights by which we see it, the problem would remain about how the dreamer 'knew' what the images before him represented. Similarity or resemblance won't do the trick. People and places in dreams can look nothing like they do in real life. This was a point about dreams Boardman wanted to draw attention to by his analogy with drama. People and places in satires can look nothing like they do in real life. The author's intentions establish the identity nonetheless.

An author's intentions are for the most part immanent in the presentation of the drama. But the schools of drama are distinguished above all in the conventions they employ to intimate the identity of the players, the setting of the play, and the significance of the actions. Our knowledge of the characters, locations and events of dreams do not seem to be bound by any of the familiar conventions of the theatre. There is no narrator. The characters in dreams do not intimate themselves in the manner of the artisans of the play within Shakespeares' Midsummer Night's Dream. They do not voice their thoughts and intentions out loud to us in convenient monologues. Sometimes things may be presented this way in dreams. But the plain fact is that we are able to say without doubt exactly what was going on in the dream without being able to justify that claim by reference to the sensible presentation of events during sleep. Hunter (1981) made the point that the sensible appearance of dreams is often what we are least sure of about them. A person may have no hesitation in telling us what went on in his dream, yet be quite unable to tell us the colours of objects dreamt or even whether they had any colour at all.

It is, however, a virtue of the analogy between dreams and dramas that, there are limits imposed by the author's intentions, by the conventions of the theatre, upon what is represented, limits which show the difference between

watching a play and merely regarding actors on the stage. "What was the colour of the King's robes?" may have no answer in a play where it is established that the king has put his robes on by word or gesture, or by some token representation like a tinsel chain or a paper sash. The setting of a play may be deliberately vague, for a purpose or because it simply doesn't matter. The identities of character may be kept mysterious. Even where no mystery is intended, there will be no end of questions about their life and morals which, should we choose to raise them, will find no answer in the play. The audience may be kept guessing about what is going on. But there may be no fact of the matter about what Rosencrantz and Guildenstern were up to, should anyone feel curious enough to ponder the question. However, this common feature of dreams and dramas is not illuminated by the postulation of images entertained by the dreamer whilst he slept. The poverty of the imagery enjoyed during sleep is no explanation of the 'completeness' of a person's knowledge of his dreams.

7. Narratives of dreams may be representations of what we know about the objects and events of our dreams where what is or is not represented is established, not by what the dreamer imagined, thought or intended during sleep, but by what he is able to say without invention upon awakening.

Mosely (1981) pressed the point against Boardman: either the dreamer recognises the images of his dreams to have a representational function, in which case, implausibly, all dreams are 'lucid'; or the dreamer does not recognise that he is entertaining representations, in which case he is deceived. Mosely further questioned Boardman's assumption that dreaming is representational:

> "Boardman admits that dreams contrast with plays in that there is nothing analogous to the playwright's intentions in dreams. He goes on,however, to list

> other similarities and to assume that therefore, somehow, the characters in a dream have a representational function. But, first of all, since the playwright's intentions are what bring about the representational function, we need something to substitute for such intentions in dreams. Boardman does not give us anything which would do so. The best we are left with is that there are other similarities between plays and dreams. However, a dream is much more of a show unto itself than a play. As mentioned above, there are certain crucial elements 'behind' the play which make it a play.
>
> But dreams are not context-dependent in the way plays are. There is no extrinsic dimension to dreams to give their characters a representational function. The characters in a dream can be *caused* by the dreamer's acquaintance with a certain individual, or can remind the dreamer of him when awake, but they cannot *represent* that individual." [p.162]

I think Mosely's criticisms of Boardman are just. But, in a way, Mosely fails to take seriously the problem he raises against Boardman. Mosely seems to conclude that we have no account of dreaming as representing. This was precisely the conclusion argued by MacDonald (1953) against Descartes. Yet Mosely concludes that "for better or worse then, Descartes' dreaming problem survives to prod the complacent and tempt the ambitious" [p.162]. The way out of the problem which Mosely raises against Boardman is to give up the idea that dreaming is representing truly, falsely or fictitiously during sleep, whilst retaining the idea that waking narratives of dreams are representational.

Once we see that a dream is the content of a fictitious story told in the past tense upon awakening, we can begin to supply a context which determines what the story represents. Mosely himself, in criticising Boardman's claim that there is a systematic ambiguity between the 'I' of the narrator and the 'I' of the

personae in the dream, points to the manner in which the representational function of dreams is achieved:

> "I attend a political rally where Nixon was speaking, I look at him, point to him and say I dreamt that *he* was tricked. I point to my next-door neighbour and say that I dreamt that *he* was attacking me. The referent of the pronoun 'he' is both the actual person standing before me and the object of my dream - one particular individual." [p.160]

MacDonald (1953) was wrong when she supposed that 'Westminster Abbey' named in the narrative of a dream could not be identified with Westminster Abbey. It can. What achieves the identification is, as Malcolm argued, nothing other than what the dreamer is sincerely inclined to say upon awakening. We need not suppose that the dreamer chooses what he says as if he were a playwright making up a story. The descriptions and ostentions which fix the content of the dream come to the dreamer upon awakening independently of his will. They are caused, presumably by neural events occurring during sleep. This cause may explain why the dreamer tells just *this* story rather than another or none at all; but it does not justify the identifications made by him. That a person's disposition to 'tell a dream' is so caused may even be a necessary condition of its being a narrative of a dream, as Mannison (1975) suggested in contradiction of Malcolm. But this does not mean that the dreamer's waking narrative refers to what happened during sleep or that its content was previously represented *by*, or *to*, or *in*, the dreamer whilst he slept.

An analogy between telling a dream and saying what one imagined may illuminate the special authority we ordinarily allow to a person's account of his dream. But the analogy also calls into question any attempt to identify dreams with what we imagined. Even were a person telling a dream to

remembers perfectly what images, thoughts and intentions he had during sleep, he would not thereby remember all that we suppose him to know about his dreams. The fact that our identifications of the characters and objects of our dreams are accepted without question, in the manner of our acceptance of an author's identifications of the characters and events of an historical play, does not imply that we know what we dreamt because, during sleep, were in some sense 'aware' of the content of our dream.

8. Often, in telling a dream, one appears to remember events which one could not possibly have imagined.

Mannison (1975) offered an explanation of how it is that dreams can differ from any mental phenomena found in waking life in the respect that the events and deeds of a dream may be quite unimaginable and impossible to believe. Mannison argued that, without abandoning the assumption that dreams are dreamt during sleep, (that the content of our disposition to tell a dream is determined by events occurring during sleep) the impossible features of dreams may be accounted for as merely features of the fictitious stories we are disposed to tell, without invention, when we wake up, and not features of beliefs, quasi-beliefs, vivid imaginings or some such nonsense occurring during sleep:

> "My model for 'dreaming' (or 'having a dream') is this: A person's dreaming or having a dream consists in his being disposed to tell a story of a certain sort some relatively short time after awakening; such a disposition having been caused by neural activity occurring whilst he was sound asleep.
>
> ... The 'story' one is disposed to tell upon awakening is neither a *report* of anything that occurred whilst one was asleep, nor is it proffered for our consideration as a piece of highly *imaginative* fiction. It is not a *description* of

> anything that did happen, nor of anything that one has imagined as a possible happening.
>
> If the central nervous system is active and self-initiating whilst asleep, then there is no *a priori* restriction on what new or unusual pathways our neural findings will travel. If it is such activity that causes one to awaken with a disposition to tell a certain story, then there are no *a priori* limits to the stories one might be supposed to tell. Since while asleep one has not been 'entertaining propositions' in any way, whatever conceptual or logical rules govern propositions have no application. The fact, if it is a fact, that most of or all of our dreams are not of what is senseless or logically impossible is explained by the quite plausible hypothesis that it is easier, and hence, more likely, for neural firings to follow already established pathways than to establish new ones." [p.674]

Mannison is entirely right that the assumption that the impossible contents of a dream narrative are, in some sense, 'entertained' by the dreamer during sleep is an unnecessary encumbrance. The fact that, in expressing and accepting as true narratives of dreams, we accept that impossible things can happen does not show that *during sleep* a person 'accepts', either, as Descartes supposed, with erroneous belief or, as Rechtstaffen (1978) suggested, with 'single-minded' unreflectiveness or, as Coleridge would have us read a poem, with 'suspension of disbelief' or, as Thomas (1953) suggested, with 'pretended belief', or with any such qualification, that such things were happening. What we accept is that in dreams the incredible and unimaginable can happen. It in no way follows that, during sleep, a person, in any sense, 'accepts' or 'entertains' the thought that the impossible is happening.

Broadman (1979) offered an ingenious explanation of how we can imagine impossible events, as it were in reply to Mannison's objection:

> "We may advert to a brief episode of *Monty Python's Flying Circus* in which the characters had discovered a joke so enormously funny that anyone hearing it would literally laugh himself to death. The television audience was (cleverly) never allowed to hear the entire joke; rather they saw the results of various characters' reading or hearing the joke. Similar devises are used by authors such as John Barth: the point behind them is that while we readers cannot imagine the unimaginable, we can imagine how people would react when they discovered that what everyone had thought to be unimaginable turned out to be ... " [p.225]

It is true that, where a person is remembering the events of a play, his descriptions are not automatically discredited should the events described fail to conform to the laws of nature or logic, as they would be discredited were they intended to be reports of genuine historical events perceived or misperceived. But where among the visual, tactile, auditory images we remember from sleep is the knowledge that impossible or unimaginable things are occurring in the dream? Perhaps a dreamer may remember imaginary reactions of other characters in the dream which shows *them* to have believed that impossible events were occurring. But the beliefs which informed *his own* contemporary reactions cannot be known simply by remembering what he saw and did. Boardman does not explain what 'devises', analogous to those employed by a clever writer, opperate during sleep to inform a dreamer that unimaginable events are going on.

The analogy between dreams and drama fails if it suggests that telling a dream is like describing events depicted on stage or screen, for dreams often lack the conventions by which playwrights convey their intentions about who and what is represented upon the stage, yet that does not prevent the dreamer knowing with certainty who is who and what is what. No doubt Boardman did

not intend that the analogy between dreams and dramas to be limited to the model of 'inner perception'. Rather, he wanted to point out some of the features which distinguish our knowledge of dreams from perceptual interpretation. But it is not clear how the lessons of this analogy are to be reconciled with the belief that our knowledge of the contents or our dream is aquired during sleep and remembered upon awakening.

What Boardman had in mind was, perhaps, that our memory of dreams is analogous to our memory of our own past intentions. If so, he should have been in agreement with Malcolm that memories of dreams are not reports of past images, thoughts or sensations. Wittgenstein (1953) made the point that our capacity to remember our intentions cannot be reduced to a capacity to report or interpret past elements of behaviour or consciousness:

> " 'I was going to say ...' - You remember various details. But not even all of them together shew your intention. It is as if a snapshot of the scene had been taken, but only a few scattered details of it were to be seen: here a hand, there a bit of face, or a hat - the rest is darkness. And now it as if you knew quite certainly what the whole picture represented. As if I could read the darkness." [s.635]

Wright (1984) argued that the lesson to be drawn from Kripke's sceptical argument about rule following was that, if we construe knowledge of intentions on the model of perceptual reports, there is no fact of the matter in which a person's past intentions consist; hence, we should construe a person's knowledge of his past intentions upon what Wright called a 'constitutive', rather than an 'investigative', model.

9. The argument that what we appear to remember cannot be reduced to perceptions, thoughts, images, intentions or any other mental phenomenon

found in waking life leaves no sufficient reason to suppose that we remember a unique mental phenomenon from sleep.

The argument of this and the preceding chapter, that popular faith in the Received Opinion is incoherent with our everyday judgments about what a person perceived, intended, imagined, thought, etc., is the reworking of an old theme. It clearly betrays, at least I hope it does, the influence of Bouwsma (1945) (1957), MacDonald (1953), Malcolm (1956) (1959), Squires (1973), Mannison (1975) (1977), Hunter (1976) and Shaffer (1984), among others. Indeed, even before Malcolm published his major work on dreaming, it was close to becoming the orthodox view in analytic philosophy, or at least in Oxford philosophy (which seemed like much the same thing in those days), that dreams are not hallucinations. Nagel (1959) expressed the attitude that 'quite enough' had already been said to establish dreams are not identical with any of the mental phenomena found in waking life.

However, Squires (1973) was the first to draw clearly the inference that, if dreams are not hallucinations remembered from sleep, then either dreams are what we merely appear to remember upon awakening (in which case we don't dream dreams during sleep and remember or forget them upon awakening) or that dreams are a kind of internal process which causes our awakening impressions (in which case, we are unaware of our dreams during sleep and don't remember or forget them upon awakening). Mannison (1975) proposed a compromise according to which 'dreams are dreamt in sleep' implies that our disposition to relate a particular kind of fictitious story upon awakening is caused by neural events occurring during sleep. On Mannison's account, since the story told is not a report of anything which happened during sleep, it would appear to follow that it is not a memory; and Mannison, whilst not explicitly drawing the conclusion, says nothing in defence of our conviction that 'dreams

are remembered or forgotten from sleep'. Dennett (1976) remains the only attempt to defend our conviction that dreams are dreamt during sleep and remembered or forgotten upon awakening which takes the threat of theoretical elimination seriously.

Other commentators on dreaming, for example Curley (1975) and Dunlop (1977), seem so struck by the failure of Malcolm's verificationist arguments to show that dreams *cannot* be thoughts, images, sensations, etc. that it has skewed their own view of the central problem about dreaming. These commentators take the important issue to be, firstly, that dreams *could be* false beliefs and frustrated desires, as Descartes supposed them in fact to be, and, secondly, that science may discover *some examples* to bear the weight of a Sceptical Argument. Their concern with the Sceptical Argument distracts them from taking seriously the possibility that, in the typical case of telling a dream, we don't remember seeming to see and trying to do the events related, and from questioning whether it would follow from this that dreams are not remembered from sleep.

Shaffer (1984) is the most recent article to address the issues of chapter one in any depth. He too argued that dreams are not hallucinations remembered from sleep. He also supposed that, in some cases, we might remember thoughts, images and intentions from sleep, but that it would not follow that dreams consist in such thoughts, images and intentions. However, Shaffer did not question the proposition that dreams are remembered from sleep. Shaffer seems to combine MacDonald and Malcolm's view that dreaming is an irreducible mental activity occurring during sleep with the view that thoughts, images and sensations may occur during sleep, ending up with the curious position that a person may wake to remember thoughts which occurred during sleep simultaneous with and directed towards his dreams:

> "In this paper I have agreed with Malcolm, although for different reasons, that dreams do not consist of or entail psychological states found in waking life such as judging, deciding, experiencing emotions, having sensations, wanting something, etc. Thus they are unique states of consciousness"

It seems to me that Shaffer overlooked the connection between the theory that dreams are hallucinations and our conviction that, in telling a dream, we are remembering something from sleep. The initial appeal of the hypothesis that dreams are hallucinations was that it alone seems capable of delivering an account of dreams as something sufficiently 'like' what we appear to remember to be identified with dreams. If dreams are not the events witnessed and deeds done to which we ostensibly refer in telling a dream, nor seemings to see and trying to do such things, but Something Else ("a unique state of consciousness"), what reason have we to suppose that we *remember* dreams? Not the facts about what we appear to remember upon awakening. Nor the tried and tested 'rule of thumb' that a person generally remembers what appears to him to have happened. Unfortunately, Shaffer gives us nothing else to go on. All he says is that "it is a simple and natural interpretation" to take dream narratives as "for the most part veridical memories." [p.137]

This will not do. For what is 'simple and natural' depends upon how much we know. The 'simple and natural' similarity between narratives of dreams and reports of events remembered ends where it begins, that is, with the psychological fact that on awakening people are inclined to express themselves by the use of first person past tense sentences ostensibly referring to events witnessed and deeds done. Shaffer himself argues that, according to our everyday theories about the connections between mental phenomena, environmental stimulus, and dispositions to behaviour, we do not remember anything which has similar causal features to the false perceptual beliefs and

frustrated desires which sometimes explain such narratives as memories of past experiences. Shaffer also seems to accept that where we might have evidence that something is remembered, there would yet be insufficient reason to identify dreams with what is remembered. Why then should it remain 'simple and natural' to insist that dreams are remembered from sleep? Perhaps we might conclude that we *appear* to remember a unique kind of mental phenomenon unlike anything found in waking life. But the reasons by which we arrive at this conclusion, it seems to me, are quite sufficient to call in question that there is anything in sleep corresponding to our awakening narrative of dreams.

If what Shaffer has in mind is that it is 'natural and simple' to suppose that we are remembering some "unique state of consciousness" why should it be supposed that this unique phenomenon occurred *during sleep*? We ordinarily decide, according to the wider context of our awakening impressions, that we are not remembering beliefs, intentions, thoughts, images, sensations, *or even* a 'unique state of consciousness' from waking life. Don't the same reasons apply to sleep? Why not? Is waking life just too crowded with other mental riches? But then, isn't such preoccupation exactly what we require to explain the fact that, waking impressions excepted, we didn't appear to notice these strange mental episodes at *any time* in our past?

It seems to me that Shaffer cannot shrug off the demand for justification. It is his acceptance of the possibility of justifying an identification of dreams with mental phenomena remembered from sleep which distinguishes his argument to the conclusion that dreams are unique from that of Malcolm. Shaffer argues the case that dreams are "a unique state of consciousness" from what he calls 'functionalist' considerations. These are evidential

considerations about the probable causes and effects of beliefs, intentions, and other mental phenomenon given what we know about them:

> "Given the right sort of empirical connections one might say that in [a particular] case dreaming that p was or involved believing that p, while still denying a *general* connection between dreaming that p and believing that p.
>
> In these remarks, I am not endorsing behaviourism or functionalism, for I am not *defining* 'deciding' and 'believing' in terms of dispositions. But it does seem to me that it is a necessary condition for something to be a decision or a belief that it produces a disposition to act in certain ways in certain circumstances (not that we can state these dispositions with any precision). Decisions or beliefs in dreams are totally lacking in this feature. ...
>
> Events in dreams do *sometimes* have connections with real life. ... [But] it is an exception which proves the rule (namely that there is no *general* connection between dreamed mental phenomena and real mental phenomena) because we have to cite specific connections to show in those exceptional cases that dream phenomena can involve real phenomena." [p.139/140]

If 'functionalist' reasoning is appropriate, then we have reason to demand some independent evidence about the supposed cause of our waking narratives. The failure to find any such independent evidence, having thoroughly considered what might be shown, is reason enough to conclude either that 'for functionalist reasons' dreams do not exist or that functionalist reasonings are inappropriate for 'dreaming' is not a theoretical term.

Malcolm's argument that dreams cannot consist in thoughts, images, sensations, etc. was precisely that it is inappropriate to demand any empirical justification for our conviction that dreams are remembered from sleep. When Malcolm concluded that dreaming was unique among mental phenomena, he meant that there can be no observations of sleep which confirm or disconfirm a

person's awakening narrative. The uniqueness of dreams was supposed by Malcolm to be a logical feature of dream narratives, not a peculiarity in their nature, of their causal connectedness with stimulus and behaviour. Shaffer explicitly rejected Malcolm's conclusion that dreams cannot be beliefs and intentions. He takes it to be a theoretical matter that they are not. What, then, does Shaffer mean when he says that dreams are "a unique state of consciousness"? He does not give us a theory about dreaming indicating what peculiar system of causes and effects they underly. He only argues what dreams are not. I take the proper conclusion of Shaffer's argument to be that it is doubtful whether we are remembering *anything* from sleep, in the typical case of 'telling a dream'; that it is doubtful whether narratives of dreams generally describe any mental phenomena *at all.*; that dreaming is a unique mental concept in that there is unusually good reason to think that dreams *are not dreamt*. And I take the fact that Shaffer is blind to this implication of his argument to be as much a matter of philosophical interest as the conclusion itself.

PART TWO

SCIENTIFIC STUDIES OF SLEEPING AND WAKING

CHAPTER THREE

'ACTIONS' DURING SLEEP

(Scientific Studies of Sleepwalking, Sleeptalking, Night Terrors & Signaling that one is Dreaming)

1. What a person does and what a person says during sleep is the best evidence for or against the hypothesis that, in telling a dream, a person is remembering thoughts, images, sensations desires, or some such mental acts or events.

In Court Procedure there is a formality known as the 'Best Evidence Rule'. This rule places the disputants under an obligation to lead their evidence, not according to its quantity, but according to its kind. The idea behind this rule is that some kinds of evidence are qualitatively better, in the eyes of the law, than others. That is, if evidence of a certain kind told one way on the issue, it would outbalance an equal amount of evidence of an inferior cast. The fairest way to settle a dispute, the law has it, is to weigh the evidence like with like in the order of its quality. This procedure, it might be hoped, reduces the chance of impressionable jurors being overly impressed by an Advocate who lays before them mountains of detailed evidence of an inferior cast (usually delivered by an 'expert' witness with a string of scientific qualifications), to the extent that they are blind to his failure to produce much evidence of the kind (albeit of a more familiar, homely nature) best able to settle the matter one way or another.

The best evidence for what a person thinks, imagines, feels, and so on, is what a person says and what a person does. It would be a mistake to think that this kind of evidence is available only in cases where a person is positively disposed to do and say something. Evidence that a person asleep is disposed to say and do nothing is just as good. There are, it is true, a significant number of cases in which a person says and does things during sleep. Sometimes people talk in their sleep, they cry out, toss and turn. Sometimes sleepers leave their beds and engage in elaborate pantomimes of waking actions. A fair amount of this speech and behaviour is too fleeting, erratic and incoherent to sustain any interpretation as the product of purposeful mental activity but, often enough, it has sufficient organisation to invite an explanation in terms of a coherent pattern of beliefs and intentions. It is an open question whether such evidence confirms the hypothesis that, in some cases, a person remembers what he seemed to see and tried to do during sleep. But it is not an open question whether such evidence confirms the Received Opinion that, in general, 'telling a dream' is remembering episodes from sleep.

If the evidence of what a person was disposed to do and say proves that, in some cases, a person remembers what he seemed to see and tried to do during sleep, then it also proves that, in general, telling a dream is not remembering such episodes. We already have enough evidence to conclude that the usual case of 'telling a dream' is not a case of remembering episodes from sleep. Even should it turn out (and it might not turn out) that, in every case where a person says and does things during sleep, he remembers something of this upon awakening, the balance of evidence would still lie against the Received Opinion. We have *buckets* of evidence, evidence of the best possible kind, that dreams are not thoughts, sensations, images, etc. remembered from sleep.

No doubt I will be referred to expert witnesses who will tell us that such and such an experiment confirms that dreaming is a 'cognitive process' or 'perceptual activity' occurring during sleep. I do not deny that physiological evidence is sometimes relevant to establish psychological facts. I'll bite my tongue when the next scientist or philosopher speculates that, in some future time, the print-out of a Celebrescope will be the best evidence about what a person thinks, feels, imagines, etc. In the next chapter I take a look at what the physiological investigation of sleep does and does not show in the present time. My point for now is that, from what we already know about the symptoms of beliefs, desires and other mental phenomenon in normal human beings, physiological evidence is, as yet, a very poor second to observation of behaviour. Scientists may tell us that similar things go on in people asleep as in people awake, despite the difference in behavioural dispositions. But that is not to tell us that, despite the difference in behavioural dispositions, the psychological facts are the same, asleep or awake.

It is somewhat ironic that Malcolm's (1959) essay on Dreaming is widely regarded as a monument to the folly of 'logical behaviourism'. For what most outraged many of Malcolm's critics was not so much his claim that there is a necessary connection between the beliefs and desires a person has and his concurrent dispositions to speech and action as his claim that there is *no logical connection* between what a person dreamt and his dispositions to behaviour and speech during sleep. Malcolm argued that it is a unique feature of dreaming, among mental phenomena, that evidence of dispositions to concurrent speech and behaviour is irrelevant to confirm or disconfirm a person's subsequent account of his mental life. For, in the normal context of narrating a dream, it is presupposed that the dreamer was sound asleep, that he was not disposed to do or say anything as he slept. Therefore, according to Malcolm, it is a distinctive

feature of the concept of dreaming that a person's sincere awakening narrative of his dream cannot be confirmed or disconfirmed by evidence about what he said or did (or would have said and done) whilst asleep. He argued that, even in the exceptional cases where a person was not sound asleep, that is, where evidence is available.that a person did or would have done various things, such evidence that he thought, imagined, felt, intended this or that is irrelevant to what he dreamt.

Malcolm is commonly taken to have held that no mental phenomena other than dreams can ever be properly asserted to occur during sleep. For example, Shaffer (1984) [p.138 and p.144] attributes this view to Malcolm, before promptly rejecting it. But Malcolm did not rule out the possibility that we might attribute thoughts, sensations, feeling, desires to a person on the basis of his behaviour during sleep and that, on awakening, a person might remember something of these nocturnal goings on. He did argue that a person's behaviour and speech cannot bear psychological interpretation without qualifying the assertion that he was asleep, and that evidence that a person remembers such psychological phenomena is liable to call into question the hypothesis that he was asleep. This is not a very shocking proposition. Putnam (1962a), it is true, was shocked, but he was single-mindedly reading the verificationist sub-text. Admittedly, Malcolm supposed that our criteria of sleep are behavioural. It might be that physiological differences between sleeping and waking might help to resolve difficulties in deciding when a person's behaviour shows him to be aware of something without showing him to be awake, or showing him to be in a distinctive state, in some respects 'resembling sleep', as Malcolm (1959) [p.27] characterised sleepwalking. But it is not a foregone conclusion that there must be such a solution to the problems of classification.

Malcolm also implied that, should a person's awakening narrative be supposed to be a case of remembering a mental life evident in his dispositions to speech and behaviour during sleep, then that awakening narrative should be distinguished from the phenomenon of 'telling a dream'. This, again, seems to me to contain an unexceptional truth. If it turns out that some of our waking reports are memories of what we said or did during sleep, and there is an explanation of why this is so, in these cases and not in general, the explanation given will not be a theory about dreaming but, rather, a theory about a distinct kind of phenomenon associated with sleep. The theoretical issue about dreaming is not whether, on this or that occasion, there was evidence that someone experienced something during sleep and remembered it upon awakening, but about whether the hypothesis that dreams are thoughts, images, sensations, or some such mental acts or events provides a good account of the phenomenon of 'telling a dream' in general. As Shaffer (1984) pointed out, exceptional cases only serve to prove the rule to which they are exceptions, namely, that dreams do not consist in beliefs, intentions or any other mental phenomenon found in waking life.

2. The assumption of the Received Opinion, that both 'sleep' and 'sleep mentation reports' are homogeneous phenomena that can be linked by a common explanation, is called in question by scientific scrutiny of these phenomena.

The important issue about dreaming is not whether there are some, or even quite a few, particular cases in which there is good evidence that a person remembers what happened during sleep. The important issue is about a general account of our apparent memories upon awakening which are not memories of waking life. The Received Opinion, as commonly understood, makes the assumption that both (a) sleep and (b) our apparent memories upon awakening which are not

memories of waking life, are homogeneous phenomena. On this assumption, the Received Opinion attempts to link 'sleep' and 'dream reports' within a single explanation, claiming that our awakening apparent memories which are not memories of waking life are commonly memories of our mental life when asleep. So long as the Received Opinion is shackled to this assumption, it seems to me, the weight of obvious and familiar evidence lies heavily against it. The appeal to 'special cases', either reported anecdotally or systematically recorded by scientists, cannot upset the balance of probabilities. At best, it could show that there are some, perhaps numerous, exceptions to the general truth that, in 'telling dreams', we do not remember thoughts, images, sensations, desires, feelings and such like from sleep.

However, if there is one lesson which the systematic scrutiny of nature teaches before all others, it is that what we originally supposed to be a distinctive phenomenon inviting a homogeneous explanation, turns out to be no such thing. The history of science is very largely the story of how, in one case, a syndrome of associated observables was analysed into various factors each the product of a different underlying process and, in another case, two superficially unrelated observables were found to have a common aetiology. The systematic study of 'sleep' and of 'dream reports' recapitulates this very theme. Electrographic techniques have analysed sleep into a cyclical pattern of physiologically discrete periods, completely upsetting the traditional supposition that sleep is a fairly uniform state of bodily rest, varying only in proximity to waking life along a continum of 'depth'. The attempt to correlate physiological distinctive features within sleep to psychologically significant kinds of 'sleep mentation report' has lead scientists to distinguish dreaming from other types of mental phenomenon associated with sleep. This is especially evident in the once heated, but never satisfactorily resolved, debate

about the frequency and character of 'dream reports' consequent upon awakening from NREM sleep.

Aserinsky & Kleitman's (1953) hypothesis that there is a unique correlation between Stage REM sleep and 'dream reports' is still widely publicised but has long-since been discredited. Herman, Ellman and Roffwarg (1979) provide a fascinating review of the strikingly divergent experimental results which provoked the debate about the proper definition of 'dream reports', together with the results of a study designed to assess the scope and extent of experimenter-induced bias in early studies once supposed to have established that dreaming is uniquely associated with Stage REM. Perhaps it is not surprising that the identification of Stage REM sleep with dreaming still enjoys wide popular credence. It remains easily the best shot ever had at establishing a type-type psycho-physiological correlation generally applicable to a familiar mental phenomenon. And, it would seem, many people, though not so many psychologists or philosophers now, still suppose that progress in psychology must result in the discovery of such correlations.

The ability to predict the likelihood that a person will have a story to tell if awoken retains its place as the securest result in psycho-physiology. It is an important result, despite the failure of earlier ambitions to demonstrate content-relative correlations. Some such ambitions were for a time rekindled by LaBerge's (1985) work on 'lucid dreams'. But Hobson's (1988) program of establishing 'formal' rather than content-specific correlation is probably the mainstream of what survives of psycho-physiological dream research. That reseach program is nowadays an altogether more modest affair than it was in its hey-day of the fifties and sixties, when it flourished largely as a beneficiary of the U.S. defence budget reseach boom, and researchers could *afford* to believe that the 'scanning-hypothesis' pointed the way towards a

wealth of type-type identities. Rechstaffen's earlier (1967) paper which attempted to justify the assumption that 'subjective reports' could be 'validated' by correlations with physiological phenomena (such as the supposed correlation of movements within a dream narrative to eye-movements during sleep which was offered in support of the notorious 'scanning hypothesis') was some time ago superseded by an equally influential (1978) essay in which he argued, in effect, that the phenomenological distinctiveness of dream narratives among reports of mental phenomena (features he characterised as the 'single-mindedness' and 'isolation' of dreams) is reflected in the *failure* of researcher's like himself to establish significant psycho-pysiological correlations. Foulkes, another veteran, once in the cold-war vanguard of correlative research, has long since abandoned any ambition to answer the persistent questions about dreaming in 'hard' neurobiological terms. Foulkes (1978) (1985) has attempted, almost single handedly one might suppose from a glance at the literature, to integrate dream theory within the framework of cognitive psychology, attempting to show both that Freudian psycho-dynamics is not the only alternative to Hobson's (1988) neurobiology, and that cognitive psychology can embrace the problems about motive and creativity raised by dreaming without compromising its hard-won scientific credentials.

Many researchers still suppose that NREM reports, whilst more frequent than originally believed, tend to differ in character from Stage REM reports, and classify NREM reports as 'thinking reports' in contrast to the typical Stage REM 'dream report'. This maintains the appealing idea that there is at least some psychological distinction corresponding to the dramatic physiological contrast between Stage REM and NREM sleep. There is, however, no consensus about what exactly are the distinctive features according to which 'sleep

mentation reports' should be classified. Some have despairingly questioned whether reports elicited from NREM sleep differ clearly in character from those of Stage REM sleep in any particular respect other than the average length of narrative.

It is, perhaps, unsurprising that there is little agreement about the significant differences and similarities among 'sleep mentation reports', given that leading theorists like Foulkes (1985) and Hobson (1988) take such radically variant views about what an explanation of mental phenomena in sleep should look like. (Foulkes, the cognitive psychologist, evidently regards Chomsky, Fodor and other modular Representational Realists as his philosophical brethren, whereas Hobson is clearly of a mind-brain with the identity theorist or, rather, with eliminative materialists like the Churchlands.) Dement (1975), once the most active researcher in the field, suggested a further source of indecision about the classification of waking narratives when he expressed doubts about whether to attribute distinctions between 'sleep mentation reports' taken from REM and NREM sleep to discrete kinds of mental life within sleep or to variations in the ability to remember with uniform clarity and vividness what is in fact a homogeneous mental life more or less continuous throughout 'sleep'. More recently, LaBerge (1985) has further muddied the classification issue by attempting to meet head-on the requirement stipulated by psycho-physiologists like Dement, Rechtstaffen and Hobson that kinds of reports be 'validated' by association with physiological variables in sleep. The fact that 'lucid dream' reports vary so strikingly from typical Stage REM reports presents a serious problem for theorists like Foulkes, Rechtstaffen and Hobson who regard dreaming as a form of credulous hallucination or of thinking and imagining marked by its lack of reflective awareness. According to LaBerge, many established dream researchers take

common comfort in alternatively denying the existence of lucid dreams, attempting to marginalise their importance, or simply yet ignoring them. LaBerge (1986) gives evidence of a sort that it is hard, for Hobson at least, to ignore, that narratives of lucid dreams are 'objectively valid' reports and are associated with Stage REM sleep.

If scientific scrutiny of sleep and dreaming has shown any one thing, it is that our pre-scientific concepts tend to disintegrate in the face of the amazing complexity of phenomena and their inter-relationships which is discovered. Given this complexity, it cannot be expected that we come away from Nature with neat answers to questions initially posed. More likely, we will come away asking different questions. Sometimes with an answer, sometimes not. But almost certainly we will cease to attach the same importance to the same questions as we did when we started out.

This is not automatically bad news for the defender of the Received Opinion and good news for me. The claim that scientific discoveries not so much disprove the Received Opinion as render it obsolete, tells equally against the philosophical interest of my claim that familiar facts show the Received Opinion to be irredeemably false. The contention that scientific discoveries could not justify the Received Opinion, needs to be backed up with a plausible account of just what scientific discoveries could show. It is open for the traditional defender of the Received Opinion to revise his thesis and argue as follows: Granted that there is no general account of 'telling a dream' as the memory of what a person seemed to see and tried to do during sleep; this does not entail that there are merely odd cases where something is remembered from sleep following no regular pattern; there may well be distinctive kinds of cases (i.e. kinds of 'sleep' or kinds of 'sleep mentation report') for which it is a general truth that our awakening narratives are genuine memories of what we

thought, imagined, intended, felt, etc. during sleep; Sleeptalking, Sleepwalking, Night Terrors and Lucid Dreaming might turn out to be distinctive kinds of phenomenon within 'sleep', each associated with a particular kind of what scientists (having abandoned using 'dream report' as a catch-all term) now inelegantly call 'sleep mentation reports'.

I stand by the claim of Chapter One that, from what we already know, the Received Opinion is patently false. But, in this chapter I wish also to examine the evidence for and against 'specialised versions' of the Received Opinion, concerning Sleeptalking, Sleepwalking, Night Terrors and Lucid Dreaming. In cases where a person says or does something during sleep, is there a significant correlation between what he says and does during sleep and what he appears to remember upon awakening? In cases of Lucid Dreaming, where a person appears to remember, not events seen and deeds done, but visual, auditory and tactile impressions which he entertained as vivid representations, sometimes subject to his will, whilst believing himself to be lying asleep in bed, is there any reason to doubt a person's word? And, supposing evidence to be required, is not this provided by the association of Lucid Dream reports with pre-arranged 'signals' made during sleep?

3. Where an association between a person's dispositions to behaviour and what he subsequently appears to remember upon awakening is good evidence that he remembers something that happened, it is also good evidence that he was awake at the time it happened.

The hypothesis that someone remembers what he said or did *during sleep* is a curious one. When Flashback claims to remember filling out the pools coupon in time for the five o'clock post, he wants all the independent evidence that he can conceivably muster to convince his wife that he conscientiously went

through the motions, that he paid attention to what he was doing, that, in short, he'd filled in the coupon just as she'd told him. But later, in the pub, when Flashback boasts to his mates that he'd really filled in the pools coupon whilst asleep, his enthusiasm for independent evidence about what he'd done and said suddenly takes on a note of caution. For, if the independent evidence that he remembers is 'too good', it will also show that he was not asleep at the time he filled out the coupon. It is a curious feature of the hypothesis that someone remembers what went through his mind whilst walking, talking or 'signalling' during sleep, that the evidence that he was aware of what he was doing, and hence remembers something, is necessarily pretty thin and tenuous.

Ayer (1974) tells an amusing story which plays upon the close connection between evidence for the conclusion that a person's behaviour is the product of intentions and beliefs and evidence for the conclusion that he is awake:

> " . . . it is related of one of the Dukes of Devonshire that he dreamed that he was speaking in the House of Lords and awoke to find that he really was speaking in the House of Lords. Even if this story is untrue, it does not appear to be self-contradictory." [p.239]

The humour of the story, as I understand it, rests upon the tacit implication that the Duke talked without meaning. He talked without meaning either because he was asleep and unaware of his utterances or (the satirical point) because he was a stupid windbag, whose waking speech resembled the incoherent ramblings of a sleeptalker. The imaginary picture we are given of the Duke is one in which the evidence is indecisive as to whether he remembers what happened whilst he was asleep or whether he was awake but speaking, as it were, on 'automatic pilot', perhaps to delay the passage of a Bill, apparently unaware of the words he uttered.

We can imagine the Duke's behaviour. (Those who have witnessed the member for Perth & Kinross 'in action' won't need to image.) His eyes are closed, his head nods, he dribbles. His faltering, rambling monologue is irrelevant and incoherent. Suddenly his head jerks, he looks around, dumbfounded and confused. A momentary brightness comes to his eyes. "Ah, yes! As I was saying to my honourable friend, the member for Sidcup, in the eventuality of an infringement of clause four, subsection twelve of the present measure ..." And he's off again. The evidence that the Duke was asleep is exactly evidence that, even if not asleep, he was yet unaware of what he was saying, that his words were uttered without any intentional purpose. The evidence that the Duke remembered what he said (i.e. the evidence that his subsequent narrative relates to thoughts and intentions which give his previous behaviour more coherence than was previously obvious) tends to show that he was aware of what he said, that his words expressed thoughts and intentions going through his mind at the time, that he was not on 'automatic pilot'. But this evidence of 'memory' equally tends to show that the Duke was not in fact asleep when he made his speech, that he was in fact awake.

It is tempting to argue that a person could only be deemed to have beliefs and intentions about an hallucinated environment where he showed sufficient awareness of his actual environment to be deemed awake or, if not fully awake, then at least in some peculiar state distinguishable from normal sleep. A person asleep might utter various words and go through various motions as if he were engaged with illusory people and objects. But if there is sufficient reason to suppose that he was unaware of these words and motions, and hence asleep, there is insufficient reason to infer from these words and motions that he is aware of a train of thoughts, sensations, intentions. What can be said to repel the argument that a person's utterances and behaviour reveal his beliefs and

intentions only where they show that he was awake rather than asleep? It might be said that this argument rests upon an inadequate behavioural definition of sleep; that if we had physiological evidence that the 'sleeptalker' or 'sleepwalker' was indeed asleep, it need not bother us that he showed an unusual degree of awareness of his environment and behaviour for one who is asleep.

Unfortunately, the scientific study of sleep does not give reason to be confident that the judgement that a 'sleeptalker' or someone in the grip of a 'night terror' is asleep rather than momentarily awake. Both these phenomena are characterised by a marked interruption of the normal physiological patterns within sleep. The supposition that the proper criterion of sleep should be physiological only exacerbates the problem of establishing that the subject was asleep during the episode of talking or terror. In these cases, scientists cannot make the judgement that he was asleep independently of a psychological interpretation of the subject's dispositions to concurrent behaviour.

4. Scientists can rely upon a physiological criterion of sleep in cases of 'sleepwalking', but it turns out that, in these cases, a person remembers nothing he might be supposed, upon the basis of his behaviour and dispositions to behaviour, to have perceived, thought, intended, felt, etc. whilst asleep.

The problem of inferring mental processes from behaviour of which a person is unaware potentially is much more acute for sleepwalking than it is for sleeptalking. It is easier to suppose that a sleeptalker is unaware of his utterances than it is to suppose that a sleepwalker is unaware of chairs negotiated, doors opened, etc. But it turns out that, in the typical case of sleepwalking, in contrast to the typical case of sleeptalking, criteria of

dispositions to concurrent behaviour may be relaxed because here one may place greater reliance upon (i) physiological criteria and (ii) criteria of subsequent amnesia for what happened.

It turns out that sleepwalking and sleeptalking are, in the view of scientists, distinct natural phenomena. Dement (1972) regards sleepwalking, like night terrors and bedwetting, as an unusual 'sleep disorder' common only among young children. Like these other 'disorders', Dement comments, sleepwalking has a more appreciable clinical effect on the parents than the children themselves. It would seem to be the case that elaborate bodily behaviour, unlike typical bursts of speech within a period of sleep, occurs without major interruption of the usual electrographic criteria of sleep. Most cases of sleepwalking and 'night terrors' to have been recorded in the laboratories have taken place within the NREM sleep when the EEG measurement is least akin to that of waking brain activity. This gives us reason for more confident interpretation of a sleepwalker's behaviour as exhibiting thoughts and intentions directed towards his environment and sometimes towards illusory objects within it, without calling into question the supposition that he was asleep.

However, laboratory observations suggest that the behaviour typical of sleepwalking episodes invites no very rich interpretation of it as purposeful action:

> "During the sleepwalking episodes, as the subjects walked about the laboratory, they appeared to be aware but indifferent to their environment. Their eyes were open and their expressions were blank, creating an appearance of being dazed. Less often, a fearful expression was seen. Their movements were somewhat rigid, not uncommonly repetitive, and appeared to be purposeless such as rubbing a blanket or a door. If spoken to during the incidents, the subjects

> answered monosyllabically, as if annoyed or preoccupied. At no time did the sleepwalkers initiate contact or conversation with the personnel ..." [Kales & Jacobsen (1967) p.87].

It also turns out to be a distinctive characteristic of the phenomenon of sleepwalking, according to clinical and laboratory studies, that the sleepwalker, upon subsequent awakening shows no significant signs of remembering any of the things he did whilst asleep nor anything coherent with the thoughts and intentions which might plausibly be inferred to explain what he did:

> "Not only do the subjects fail to remember the acts performed during these nocturnal incidents, but they are completely unaware of having had the incidents ... This amnesetic characteristic was consistent in all our experimental observations; there was complete amnesia for all the incidents when the subjects were awakened in the morning, and they did not remember the events of the walk if they awakened or were awakened during a sleepwalking episode" [ibid. p.87].

Kales & Jacobsen (1967) concluded that,

> "It is difficult to assess the level of mental activity during sleepwalking because of the total lack of recall. Observation of the somnambulist suggests that he is internally preoccupied and that there is a lack of interaction with the external environment ..." [p.91]

Kales & Jacobsen further suggested that the failure of researchers to elicit as many or as vivid 'dream reports' from NREM sleep as from REM sleep may reflect an impairment of memory associated with NREM sleep. This assumes that what is 'going on' in the mind of the sleeperwalker is akin to what is remembered when we tell dreams. But, in the absence of further details about what the 'internal preoccupations' of the sleeperwalker are supposed to consist

in, and why they are not remembered, no jury could deliver a verdict on the merits of this assumption.

Sleepwalking is a distinctive enough phenomenon to be distinguished by scientists from 'normal' sleep. If sleepwalking is a 'psychological' phenomenon within sleep, then it is an abnormality or disorder. Conclusions about cases of sleepwalking, even if favourable to the hypothesis that we sometimes remember what happened during sleep, could not be generalised in support of the Received Opinion. This is just as well for the would-be defender of the Received Opinion. The fact that nothing is remembered of sleepwalking, quickly puts paid to the hypothesis that, at least in the 'special case' of sleepwalking, to 'tell a dream' is to genuinely remember something of what happened during sleep. If we were to hazard a generalisation from the special case of sleepwalking, our conclusion would be that we don't remember what happens during sleep, even where we were, in some sense, aware of it.

5. In the absence of an applicable physiological criterion of 'sleep', Arkin defines 'sleeptalking' as an utterance 'without simultaneous awareness', as established by evidence of an absence of dispositions to concurrent behaviour in response to environmental stimulus; he does not suppose that evidence of associations between nocturnal utterances and waking impressions might show that a person was, after all, aware of thoughts intentionally or unintentionally expressed by his utterances

It would be wrong to suppose that scientists can rely upon a physiological definition of sleep in cases where a person's utterances would otherwise suggest that he was conscious. The question about whether sleeptalking should be regarded as a reaction to a momentary physiological arousal rather than as a reaction to on going thoughts and concerns of the mind in sleep, is taken

seriously by researchers. Arkin (1979) discusses the problem of defining sleep in relation to sleeptalking. The problem arises because the electrographic characteristics of most speech utterances indicate a disturbance or 'movement arousal' within the physiological pattern of sleep. Thus, for example, one study concluded that utterances associated with NREM sleep "are not exteriorized symptoms of true oneric activity" and may stem from "simple perceptual confusion during abrupt awakening" [p.519]. Other researchers have argued for the priority of the psychological interpretation of behaviour (e.g. the character of the speech episode) over the concomitant electrographic measurements. Arkin accepts the view that a subject may remain 'psychologically' asleep through the momentary blip in the EEG characteristics of sleep. The 'psychological' criteria Arkin mentions are pretty rough and ready. They are, firstly, a lack of 'simultaneous critical awareness' of events happening around him and, secondly, a disposition to exhibit behaviour characteristic of someone 'waking up' in response to, let's say, an alarm clock.

Arkin (1979) offered a definition of sleeptalking as "the utterance of speech or other psychologically meaningful sound in association with sleep, *without simultaneous awareness of the event*" [p.513, emphasis added]. By "psychologically meaningful" I understand him to mean that the utterance invites an explanation as the product of inferred cognitive processes. He does not suppose that the person need be aware of these processes any more than he is aware of the words he utters. Arkin's point is not that these processes may occur 'unconsciously' or 'in the unconscious' as if hidden in darkness from the 'inner eye' but that, strictly speaking, they are not the person's thoughts at all. The processing in question is allocated to a variety of cognitive sub-systems "which may operate outside of awareness" [p.531].

When Arkin says that a person may be 'unaware' of the internal processes which explain his utterances during sleep and apparent memories upon awakening, he means that these processes may operate to produce dispositions to concurrent and subsequent psychological expressions of disassociated or discordant content, and sometimes to produce dispositions to concurrent utterances lacking any marked degree of 'linguistic organisation'. Similarly, when Arkin claims that a person is sometimes 'aware' of the operation of the internal processes producing his utterances in sleep and subsequent apparent memories upon awakening, Arkin means only that these internal processes may sometimes produce utterances having a certain degree of 'linguistic organisation' and a certain degree of association with what he subsequently appears to remember. Arkin's claim should not be taken to mean that, despite the evidence that the speaker was asleep (i.e. that he was 'simultaneously unaware of the event'), he might really be aware of thoughts, intentions, feelings, etc. intentionally or unintentionally expressed by his utterances.

Let me elaborate the point of the preceding paragraph. A superficial reading gives the impression that Arkin supposed that a person is sometimes aware of the cognitive processes which explain the 'linguistic organisation' of his utterances. This suggests, doubtfully, that we can reason both that a person was not aware of sleeptalking (i.e. of utterances "without simultaneous awareness of the event") and that he was aware of the thoughts and intentions that are normally expressed by such words. The only escape from this, it would seem, is to allow that the evidence of a person's 'memory' shows that he was, after all, aware of the event, under some description. This 'escape' would, however, land Arkin back with the problem with which he started of giving a definition of 'sleep' which will embrace the episodes of psychologically

meaningful utterances which interrupt its normal behavioural and physiological patterns.

A closer examination of what Arkin means by 'awareness' reveals that, when he infers 'awareness' from either the linguistic organisation of an utterance or its association with subsequent past tense narratives, he does not mean to imply that the person was, despite his lack of dispositions to concurrent behaviour, aware of anything. Arkin is not talking, except perhaps metaphorically, about what a *person* thought, imagined, felt, intended, etc. during sleep. He is talking about the 'access relationships' postulated to hold between various information-processing units operating within him, in virtue of which these sub-systems may variously, sometimes concordantly sometimes discordantly, produce concurrent present tense or subsequent past tense utterances. Arkin's statement that "speech emissions may occur in the absence of awareness" should be understood to mean that internal processes may sometimes operate independently of each other giving rise to dispositions to concurrent utterances and subsequent apparent memories which are of unassociated or discordant content.

It follows that, when Arkin talks of speech emissions occurring in the presence of 'awareness' during sleep, he means only that the distinct internal processes postulated by his theory produce concordant results. He does not mean that, where there is concordance, suddenly the 'inner light' is switched on where all before was darkness. Arkin does not mean that, whereas a person is ignorant of the distinct internal processes which explain the production of dispositions to concurrent and retrospective psychological expressions in the case that they produce discordant results, that person is yet party to the joint operations of these processes in cases where they produce concordant utterances.

6. Even supposing that an association between a person's utterances in sleep and his dream narratives upon subsequent awakening would establish that he remembered thoughts, images, sensations, intentions, feelings and so on from sleep, the empirical evidence does not confirm the Received Opinion in the special case of sleeptalking.

Although questioning and prodding is remarkably ineffective in producing speech showing that a person is aware of something whilst asleep, it turns out that episodes of sleeptalking are much more frequent than is ordinarily supposed. One way or another, there is more evidence about the association or disassociation between waking narratives and talking in sleep than is commonly appreciated. Perhaps this should not be surprising since few of us spend our nights awake and listening out for the grumblings of others. This marks sleeptalking out as a more widespread and normal phenomenon within sleep than sleepwalking, night terrors, and lucid dreaming. That said, however, it would appear that Arkin's (1979) efforts to induce and control the incidence of sleeptalking, have proved to be a very disappointing, especially in contrast with the successful applications of methods for learning to lucid dream reported by Garfield (1975) and La Berge (1985).

The discovery that sleeptalking is a widespread and not unusual phenomenon is not, in itself, a point in favour of the hypothesis that, in at least some kinds of cases, our awakening narratives are memories of what happened during sleep. Whether the Received Opinion is justified, even in the special case of sleeptalking, depends upon whether we can identify what is expressed during sleep with what appears to be remembered upon awakening. Our present concern is not to establish whether there are sometimes associations between sleeptalking and awakening impression that might, considered in isolation, be interpreted as cases of remembering. Our concern is twofold. Firstly, is it

generally true that there are associations between sleeptalking and waking narrative that could bear such an interpretation? Secondly, even if there were many such associations, would the fact that there are also a significant number of *disassociations* between sleeptalking and awakening narratives, provide a good theoretical reason for resisting an interpretation of the associations as memories of mental activity during sleep?

As already noted, the physiological peculiarity of sleeptalking episodes, in addition to their obvious behavioural peculiarity, gives scientists a reason to distinguish the phenomenon of sleeptalking from the 'normal' course of sleep. Thoughts, images, intentions, feelings, etc. inferred from episodes of sleeptalking are not well categorised as 'dreams', where 'dreaming' is supposed to be, to borrow Dement's (1967) phrase, "the characteristic mental activity of the organism during sleep". A further reason scientists find to distinguish the phenomena comes from the laboratory observation that (admitting considerable individual variation on this point) episodes of sleeptalking generally do not interrupt those physiologically distinctive periods of sleep, Stage REM, which scientists have attempted to associate with fuller more vivid awakening narratives or 'dream reports'. Comparing the results of nine relevant studies, Arkin (1979) concluded that most sleeptalking occurs in association with NREM sleep.

What is the degree of concordance between a person's utterances during sleep and the content of his apparent memory, if any, if immediately awoken? In a series of experiments addressing this question, Arkin and his colleagues adopted a five-level scale of association, ranging from one or more common phrase, to some similarity of subject matter, to 'talking' or 'saying' or 'asking', to no discernible concord and, finally, to no apparent memory of anything. The results varied according to the physiological stage of sleep. Concordance was

greater for REM sleep than for NREM sleep. Taking all three degrees of concordance together, the total result gave about 43% concordance.

Do these results support the Received Opinion about the special case of sleeptalking? I can see that someone might want to say that even this degree of concordance needs some explanation, and that is provided by the memory hypothesis. But, equally, the 57% complete absence of any discernible similarity between sleep talking and awakening narratives demands an explanation too, and the memory hypothesis leaves this completely mysterious. The issue should not be viewed as if there were two rival explanations squabbling over just how much or how little concordance is to count between them. The conclusion that the Received Opinion is a bad theory may be defended by pointing out that scientists, faced with the complexity of empirical evidence, are forced to distinguish phenomena and employ explanatory models which render the Received Opinion obsolete. I submit that this is the conclusion to be drawn from the Arkin's proposed "conceptual scheme for the formulation of sleep utterance and related phenomena".

7. Arkin attributes mental processes in sleep, not to the person who sleeps and awakes to tell a dream, but to distinct sub-agents operating within him, in order to account for the significant discordance between utterances during sleep and subsequent dream narratives.

Arkin advances a Disassociationist Theory of Sleep Mentation. "Its basic assumption is that unity in personal cognition is precarious and unstable" [p.531]. The postulation of "a hierarchy of cognitive subsystems themselves mutually autonomous and concurrently interactive to varying degrees" [p.531] is intended to provide a framework for explaining the varying degrees of

association and disassociation between 'verbal emission' and 'sleep mentation report'.

Arkin accepts both the inference from an utterance exhibiting a degree of 'linguistic organisation' to awareness of cognitive processes in sleep and the inference from 'memory' to awareness of cognitive processes. In cases of disassociation between utterance and apparent memory he infers that two disassociated cognitive processes operating simultaneously have distinct access routes to the Overt Utterance System via the editorship of the Executive Ego. In cases of association he infers that the Executive Ego has access to the results of a single information-processing sub-system both during sleep and on awakening. 'Awareness', as Arkin uses the term here, is a question of computational access between the hypothetical Executive Ego (roughly equivalent to Control in Dennett's (1978) model of consciousness) and other functionaries within the cognitive hierarchy. The function of the Ego is to retrieve and edit, subject to constraints of self-image, the output of distinct but variously inter-active sub-systems.

The price of identifying the Sleeptalker with the Executive Ego would be to say that *he* is sometimes simultaneously aware of two entirely disassociated streams of thought. This would amount to a very major upset in our ordinary notion of awareness. (Try thinking 'Blue cheese is best' and 'Bacon is better' at the very same time!) This is not obviously a price worth paying in order to maintain the conclusion that, in cases of association, the Sleeptalker remembers upon awakening what he was aware of during sleep. The clearer course is to maintain the distinction between the Sleeptalker and the sub-agents which are postulated to explain the production of his behaviour. On this interpretation of Arkin's conceptual scheme for the articulation of theories about sleep mentation, neither the inferences from utterance in sleep to

awareness nor from apparent memory on awakening to awareness during sleep take the Sleeper as subject. He is not aware of the thoughts uttered. He does not remember the thoughts apparently remembered.

8. Within Arkin's theoretical framework, the hypothesis that the sleeptalker subsequently 'remembers' cognitive processes which explain the production of utterances of which he was 'simultaneously unaware' may be understood metaphorically to imply an analogy between (a) the internal processes which produce an association or concordance between his *non-conscious* utterance during sleep and subsequent *merely apparent* memory upon awakening and (b) the internal processes which normally explain explain cases in which a person genuinely remembers his past intentionally expressed soliloquies.

Although many utterances in sleep are monosyllabic or incoherent, others exhibit varying degrees of what Arkin (1979) calls 'linguistic organisation'. 'Linguistic organisation' refers, in effect, to those aspects of the person's speech which would, considered in isolation, lead us to judge that the speaker was awake, lucid and aware of what he was saying. Sleeptalking not uncommonly exhibits such 'linguistic organisation' when it resembles a soliloquy expressing intentionally or accidentally a person's on going stream of thoughts or when it resembles one side of a telephone conversation, as if the sleeper were responding to an imaginary interlocutor.

In the normal case, a person whose speech exhibits a high degree of linguistic organisation is someone variously aware of his own behaviour and the events happening around him. It would normally be reasonable to infer from a person's words alone that he had certain beliefs and intentions which he expressed, or which motivated his utterance, or which caused his unintentional verbal emissions. But our habits of reasoning, established and reinforced in

everyday circumstances can lead us into error where we neglect to notice that relevant background facts tacitly presupposed in the normal context are missing. It may be natural for us to infer from a person's words that he was under the impression that he was holding a conversation, that he thought this or intended that. But in the case that a person was asleep what it is natural to say may not be reasonable. The 'justification' of our saying that a sleeptalker is aware of such-and-such may rest upon nothing more than the fact that it *would be* reasonable to say that he was aware of such-and-such if he were to utter these words in normal circumstances, in which circumstances we would judge him to be awake.

Mr. McGoo holds a slipper to his ear. He is under the mistaken impression that he is conversing on the telephone. There is no phone and no conversation. But even McGoo, barring the odd Freudian slip, is aware of the words he utters. It is only on this assumption that the fact that McGoo's words have a similar appearance of one side of a telephone conversation supports the inference that McGoo is under the mistaken impression that he is talking to someone. Even where an utterance exhibits a high degree of 'linguistic organisation', if the speaker's contemporary unresponsiveness and his subsequent lack of 'memory' show that he was unaware of the words he utters, even under a false description such as 'words spoken on the telephone', then there is no reason to suppose that he was yet aware of a stream of thoughts accidentally expressed or indicated by his non-conscious utterance. To say, solely on the grounds of what happens during sleep, that a sleeptalker expressed beliefs and intentions is merely to judge that the utterance has a degree of 'linguistic organisation' which *if we did not know that he was asleep* would lead us to infer that he was expressing those beliefs and intentions. The fact remains that, from what we

know of the sleeptalker's dispositions to concurrent behaviour alone, and notwithstanding his physiological arousal, he is unaware of anything.

A person need not always be aware of the words he utters for us to infer that he has certain thoughts and intentions. It is perfectly possible that a person may accidentally give voice to his thoughts or vent his emotions without being in the least aware that he has done so. What support can be given by a person's 'memory' that he was aware of a stream of thoughts without thereby showing that he was aware of his overt utterance? Arkin suggests that an 'association' or 'concordance' between a person's non-conscious utterances and the manifest content of his waking 'memory' is reason to say that the person was 'aware' of beliefs and intentions accidentally expressed. Normally, such an association would be good reason to suppose that the person was aware of his utterance, even though he may have forgotten that he spoke his thoughts out loud.

As I understand him, Arkin does not mean to imply that associations between waking report and nocturnal utterances show that the sleeptalker was, despite his lack of dispositions to concurrent behaviour, aware of his utterances. To imply this would be to re-discover Arkin's original problem about categorising sleeptalking as a phenomenon within sleep rather than as a momentary arousal. However, the implication cannot very easily be blocked off. For it is difficult to see what reason we have to suppose that, where an association between nocturnal utterance and waking 'memory' does not show that he remembers his utterance under some description, it nonetheless shows that he remembers something else, namely, his 'inner thoughts'. Perhaps it could be argued that the evidence of memory shows that the sleeptalker was, after all, aware of his words; but that he was aware of them only under a false description (e.g. "words spoken to someone on the telephone") and not aware of them as words spoken at the time he was, in fact, asleep. I'm not sure about

this. So I'm prepared to give the benefit of doubt to the supposition that associations between sleeptalking and waking impression could show that a person remembers thoughts non-intentionally expressed without compromising the assumption that he was asleep. The point I wish to argue is that Arkin is not concerned to establish this inference, that his scientific concern is not to establish whether, in cases where there is an association between sleeptalking and waking report, the Received Opinion is true.

Arkin's claim that, in cases of an association between nocturnal utterance and waking report, the sleeptalker 'remembers' thoughts and intentions from sleep may be taken metaphorically to mean merely that the subject *would have* remembered thoughts and intentions in other circumstances, circumstances in which he remembers his overt utterance under a description locating them during sleep and was, in further respects, aware of his environment and behaviour. Arkin's scientific concerns are with internal processes and their interactions which explain the presence or absence of such associations. His hypothesis that thought and intentions are 'remembered' is, strictly speaking,the hypothesis that there is an analogy between the internal processes explaining the association between sleeptalking and subsequent impressions and the internal processes explaining paradigm cases of remembering thoughts and intentions previously expressed. It is not essential to Arkin's hypothesis that anything be genuinely remembered. Arkin's scientific hypothesis could be true or false independently of the truth or falsity of the hypothesis that, at least in cases of associations between sleeptalking and waking narratives, the Received Opinion is true.

The scientific hypothesis that the sleeptalker subsequently 'remembers' may be understood to imply that the 'association' between non-conscious utterance and apparent memory on awakening is to be non-accidentally

explained in terms of physiological processes similar to those which explain cases in which a person genuinely remembers his past soliloquies. There is some point in expressing this scientific hypothesis about the causes of our apparent memories in terms of 'memory' in order to distinguish it from the rival hypothesis that the apparent memories are 'confabulations'. But it is important to see that the dispute behind these rival scientific hypotheses is not a dispute about whether or not the sleeptalker's memories are genuine. They are not. The scientific dispute is about alternative explanations of apparent memories, whether or not anything is genuinely remembered.

What is distinctive about the hypothesis of unwitting 'confabulation', within Arkin's theoretical framework, is that it explains a person's apparent memories in terms of their function in maintaining a person's conception of himself. The 'confabulation' hypothesis postulates an internal mechanism, conveniently characterised in anthropological terms, which functions to achieve this end, and which may sometimes 'over-ride' the processes which normally function to ensure reliable memories about what previously happened. (One may suppose that, for most of us, most of the time, genuine memories, suitably edited, are consistent with the requirements of self-conception but that, sometimes, perhaps often in the case of recently awoken subjects, editing slides into invention.) The scientific hypothesis of 'confabulation' does not imply that the person did something 'in his unconsciousness', as if it were behind his own back. Either of the rival scientific explanations, 'remembering' or 'confabulation', may be true without it being the case that the sleeptalker does anything other than appear to remember thoughts and intentions that appeared to have been previously expressed without simultaneous awareness of the event.

9. The fact that the phenomena of 'sleeptalking' and waking 'memories' are not easily explained as the products of a coherent mental life, does not imply that a person's mental life during sleep is of a very strange kind; it shows that the explanation of his strange behaviour should be given in terms of non-conscious internal mechanisms operative within him rather than in terms of a supposed mental life during sleep.

When Ben Gunn grumbles and mutters about cheeses, let us suppose that he has cheeses on his mind, notwithstanding that he is unaware of events going on around him or even of the fact that he is talking to himself. A silent train of thoughts may cause a person to emit unconscious utterances as if he were expressing or commenting upon his thoughts. Even so, by offering Ben a little piece of Stilton, we should expect him to tell us that that was on his mind. For a person who has recently been thinking certain thoughts is usually able to tell us what these thoughts were about, at least if suitably motivated and prompted. And if he cannot remember these things, or appears to remember quite another subject matter, some further or alternative explanation is required.

Sometimes experimental expectations are realised. Suppose, in the first case, that Ben Gunn, aroused by our little piece of Stilton, tells us that it had just crossed his mind that British blue cheese is the best blue cheese. He expresses surprise that we should have 'guessed' his thoughts, for he has no memory of having uttered the words we recently heard. In these circumstances, we would conclude that Ben's previous utterances were the expression of thoughts about cheeses which he now remembers. (Let us suppose that we can reconcile Ben's remembering something with the supposition that he was 'unconscious' by inferring that he remembers his thoughtful expression only under a false description, 'silent soliloquy' or 'words screamed whilst running

from the mad Cheese Eater of Nod'.) Alternative explanations of the apparent association could be tested. For example, the hypothesis that Ben is highly suggestible and unwittingly confabulated his 'memory' about Stilton is invited by our hastily designed experimental technique of offering him a little bit cheese. But in the absence of further evidence alternatives to the hypothesis that Ben remembers his thoughts about cheese have little recommendation. So far, so good. On the assumption that Ben's 'automatic' utterances and subsequent impression are regularly associated in this manner, we may safely infer that Ben remembers thoughts he expressed without being aware that he was expressing them.

Experimental expectations are sometimes dashed. Suppose, in a second case, Ben Gunn sincerely professes to remember nothing of cheese. We know that he does not readily forget his recent doings. And our little piece of Stilton was as good a prompt as we can imagine. The behaviour of Gunn is admittedly strange. It defies a satisfactory interpretation in terms of his beliefs and intentions. In some respects it is as if Ben's utterances were the expression of beliefs and intentions, in other respects not.

Should we insist that the psychological facts about Ben's thoughts are hidden from view and await to be discovered? I think not. The illusion that there are 'deep' psychological facts behind Ben's strange behaviour stems from the perfectly legitimate desire to discover the inner causes of his behaviour and from the fact that we inevitably formulate our general questions about the physiological production of behaviour in psychological terms. We want to know, for example, whether the processes which explain Ben's psychologically incoherent behaviour are more like the processes which explain the behaviour of someone who forgets what he intentionally said or more like the processes which explain the production of utterances exhibiting no degree of linguistic

organisation (i.e. incoherent and disjointed babble). We express this question by asking, "Do Ben's utterances as if of cheese non-consciously express thoughts about cheese which he has forgotten or are they meaningless products of a temporary automatism?". Presumably, if we knew more about the physiological story - if we knew more about brains and the effects on brains of years of solitude and too much fermented coconut milk - we would find more precise questions to put to Mother Nature. And then it would not bother or surprise us if the evidence gave no decisive answer to our original question.

Ben's behaviour is psychologically unexplained. There are hidden facts to be discovered which will explain his behaviour. But these hidden facts will give a physiological not a psychological explanation. The terms in which that explanation will be forthcoming are likely to be very different from the terms in which we ordinary South Sea voyagers presently voice our puzzlement about the strange behaviour of Ben Gunn. The psychological question about whether or not Ben really thought about cheeses has its answer. The facts are in view. The answer is no. This answer leaves us puzzled. But neither that, nor our unwillingness to admit that Ben Gunn, in the grip of one of his automatic seizures, is less than 'one of us', should mislead us into supposing that the psychological question is open to be addressed by the brain sciences.

Experimental expectations are sometimes dashed in the most surprising ways. Suppose, in a third case, that Ben Gunn shows no interest in our little piece of Stilton but speaks earnestly of bacon. Again, we have reason to doubt that his utterance as if of thoughts about cheeses is a non-conscious verbal reaction to thoughts about cheeses which he has forgotten. But now we have a further puzzle, in addition to the explanation of his recent talk of cheeses. What is to explain Gun's present talk of hams? The evidence of his recent behaviour points very clearly to the conclusion that he merely appears to

remember thoughts about bacon. We hypothesize that Ben confabulated some story about bacon. But why on earth should Ben confabulate a story about hams? We might say that this is "an autonomic updating of the subject's self-conception resulting from the sudden re-engagement of his perceptual and kinesthetic processing systems". But, admittedly, this is not so much an explanation as a manner of saying what we already know, namely, that Ben was temporally unaware of his surroundings and behaviour and that he subsequently appeared to remember having thoughts which he did not have.

Our new puzzle about Ben Gunn is this: on the one hand it is as if Ben thought about cheeses except that he unaccountably forgot and, on the other, it is as if Ben remembers thinking about hams, except that he didn't think about hams. In some respects it is as if Ben expressed thoughts about cheeses and in some respects it is as if he remembered thoughts about hams. We have our answer to the question whether Ben non-consciously expressed cheese-thoughts or whether he remembered bacon-thoughts. Ben did neither of these things. Still the puzzling phenomena calls out for an explanation.

10. The conclusion that 'sleeptalking' and 'telling a dream' cannot be explained as the product of a coherent mental life, is consistent with the use of intentional terms to characterise hypotheses about the physiological mechanisms which produce these behaviours.

I have proposed that the explanation of Ben's non-conscious utterances and apparent memories should be sought in discovery of physiological processes which produce this behaviour rather than in discovery of 'hidden facts' about Ben's mental life. How is this overtly Rylean position to be reconciled with the activities of cognitive psychologists like Arkin who formulate hypotheses about the internal mechanisms governing behaviour and characterise these

mechanisms in unashamedly intentional terms? Two conciliatory approaches come to mind. The first proposes that the use of intentional characterisations of neurobiological types is *entirely metaphorical*. The second approach to reconciliation sees no clear distinction between the 'literal' use of intentional terms in everyday rationalisations of human action and the 'metaphorical' use of intentional terms in the biological sciences. Instead, it proposes that the subject of the intentional characterisations of neurobiological types is *not the subject* whose behaviour is explained by the interactions of those types within him.

Robert Louis Stevenson (1925) drew an analogy between his creative talent for story telling and the remarkable creative talent, sometimes more impressive than his own, evident in the production of his dreams. He attributed the creativity of his dreams to the work of 'little people' working through the night beyond his consciousness or will. The legitimacy of such humuncular explanations in cognitive science has been defended by Dennett (1975). According to Dennett, a clear distinction between personal and sub-personal levels of intentional explanation is crucial to the justification of the use of mental terms in constructing hypotheses about the brain processes which produce behaviour. I am not entirely persuaded by Dennett that the characterisation of inner mechanism in psychological terms should be regarded as anything other than a metaphor expressing the hypothesis that the physiological process is of a kind frequently associated with the nominal psychological phenomenon. However, I am persuaded that Dennett is correct to insist that, where inner processes are characterised in mental terms, the subject of these cognitive hypotheses should be distinguished from the personal subject of psychology.

Let us suppose that we have observed at length Ben Gunn's periodic states of perceptual detachment associated with non-conscious utterances of varying degrees of linguistic organisation, and have repeatedly aroused and questioned Ben about his recent thoughts. Among those occasions when Ben's utterances exhibit a fair degree of linguistic organisation we find that (i) sometimes there is an association between Ben's non-conscious utterances and his apparent memories, (ii) sometimes Ben appears to remember nothing, and (iii) sometimes, fairly often in fact, Ben's lengthy non-conscious utterances are succeeded by an equally full apparent memory bearing not the faintest resemblance in its manifest content.

In this third case, it is as if someone had thoughts about cheese and someone else had thoughts about bacon, and neither of them was Ben. The Cheese Thinker simultaneously passed his thoughts on to the Publishing Department but failed to get a copy of his thoughts lodged with the Librarian. The Ham Thinker was refused immediate publication but stored a copy with the Librarian who supplied it to the Editor for publication at a later date. We have a story which attempts to explains how Ben's behaviour was brought about by an organisation of sub-agents within his body. But that story does not tell us that Ben intended or was aware of any of the internal events which produced his behaviour. Indeed, while part of the story attempts to explains how these sub-agents brought about Ben's doing something (his intentional attempt to relate what he recently thought) another part of it attempts to explain behaviour (his non-conscious utterance) of which Ben was not even aware.

We could extend our story to cover cases of type (ii) when Ben appears to remember nothing by supposing that nothing got lodged in the Library and to cover cases of type (i) when there is an association between Ben's non-conscious

utterances and his apparent memories by supposing that the Cheese Thinker both publishes and lodges a copy in the Library. Rival stories might also be told. For example, that the Bacon Thinker didn't work at the same time as the Cheese Thinker but the Editor mistook his recent output for a library copy. But however attractive or illuminating we find any of these heady tales they should not mislead us into thinking that Ben intentionally expressed thoughts about cheeses or that he genuinely remembers thoughts about bacon or thoughts about cheese.

'Ben thought about cheeses', however 'natural' a manner of speaking, should be taken harmlessly to imply only that Ben Gunn non-consciously uttered certain words that *in some other circumstances* would have been explained by his having cheeses on his mind. Similarly, 'Ben remembered cheeses' or 'Ben remembered hams' should be understood to imply only that *in some other circumstances* Ben's apparent memories would have been explained by his having thought about cheeses or hams and not forgotten what he thought. These behavioural similarities, independent of the environmental and behavioural context which would determine their psychological content, very obviously invite an explanation in terms of common internal processes. The ultimate concern of scientists like Arkin is to construct and test hypotheses about similarities and distinctions among the internal processes governing behaviour.

11. The phenomenon of Night Terrors has an entirely distinctive physiology within sleep, and scientist have so far been unable to establish whether the episode follows upon mental anxieties initiated within the preceding period of physiologically 'normal' sleep.

Research has not established any characteristic behavioural or physiological correlates of ordinary anxiety dreams or nightmares. There is, however, a quite extraordinary behavioural and physiological sleep disorder, seen mainly among young children, which has captured the interest of scientists. Night Terrors are distinguished from the more familiar Stage REM anxiety dream in that they occur only exceptionally outwith Stage 3 and Stage 4 sleep and are evident in an arousal interrupting the normal behavioural and physiological character of NREM sleep:

> "The severe Stage 4 night terror consists of perhaps the greatest heart rate acceleration possible in man (in a typical severe arousal heart rate accelerated from 64 to 152 bpm within 15 to 30 sec) with screams of enormous intensity, cursing, motility, increases in respiratory rate and especially amplitude, and a sharp increase in skin conductance ..." [Kahn, Fisher & Edwards (1979)]

Given the magnitude of the interruption of sleep it is perhaps surprising that subjects of a night terrors readily return to sleep very soon afterwards. Broughton & Gastaut (1965) reported little response among subjects to laboratory questioning immediately following the terror. They argued that because of this amnesia it is impossible to establish that the disturbing thoughts within NREM sleep produce the arousal response, and speculated that such 'memories' as may be elicited are merely rationalisations caused by physiological changes occurring during arousal. This speculation might be supposed to be supported by the fact that there is no known physiological feature which heralds the onset of these attacks. But, equally, the fact that there appears to be no purely physiological explanation of the occurrence of night-terrors tells against the speculation that there is no psychological cause. For we must have our explanation one way or another. In order to avoid this vacuum of explanation, Kahn, Fisher and Edward (1979) attempted to

distinguish between 'pre-arousal' and 'post-arousal' mental content, arguing that some of the reported content may be genuine memory of thoughts leading to the awakening terror.

In an editorial comment, Arkin posed the problem:

> "The question is: which comes first? Does ongoing mentation play a role in triggering the night-terror arousal episode? Or does the latter emerge from a 'physiological vacuum' following which emergence the intense automatic arousal becomes the primary instigator of the concomitant terrifying mentation? If the latter were true, then the occasions and content of night-terror episodes would provide no psychological information about prior sleep mentation, but rather, reflect primarily the arousal episode proper." [Arkin (1979b) p.543]

Arkin suggested that careful monitoring of pre-arousal heart rate might indicate some physiological cause of the terror, and also validate mentation reports as if of pre-awakening anxiety as genuine psychological explanations. Arkin, like other scientists, writes here as if giving a valid psychological explanation and remembering were one and the same thing. The 'failure' to distinguish the two issues reflects the fact that, as I see it, the truth or falsity of the Received Opinion is not the real concern of theorists about cognitive processes during sleep.

In reply to Arkin's editorial comments, Fisher makes clear that the inference to cognitive processes prior to arousal will have to rest upon inferences from what a person says and does, unsupported by correlations with physiological variables:

> "Although it would fit in with my preconceived notions and prejudices that a group of night-terror-arousal subjects, as Arkin suggests, might experience non-retrievable mentation in association with which the heart beats faster, I do not find the evidence he marshalled in favour of this contention very persuasive

> and find myself rather uncomfortably stuck with the concept of the prearousal state as a 'physiological vacuum'." [Fisher (1979) p.547]

It does not look as if the hypothesis that people generally remember what they appear to remember following a night-terror arousal is very secure. The most that Kahn, Fisher & Edwards (1979) were prepared to argue was that there is an uncertain mixture of memory of pre-arousal thoughts together with a proportion of reports of post-arousal responses. This was more to say that they were dissatisfied with evidence for the hypothesis put forward by Broughton & Gastaut (1965) that all reports of pre-arousal thoughts and fears should be regarded as confabulations, than to say what exactly is remembered from NREM sleep prior to night-terror arousals. And if we were to further consider what 'mentation' is supposed to precede the arousal, it is likely that difficult questions would arise about why such mental phenomenon should be inferred to explain a single effect without explanation of absence of its usual causes and effects.

12. Correlations between pre-arranged 'signals' during sleep and awakening reports of 'lucid dreams' could show that, in some extraordinary cases, a person remembers what he thought, did and imagined during sleep.

In Chapter Two ("The Unimagined and Unimaginable"), I argued that, since a narrative of a dream typically has the intrinsic appearance of remembering events seen and deeds done, we require evidence extrinsic to the awakening narrative to justify the hypothesis that a person is remembering events and actions *imagined* during sleep. It took no argument to show that, in the ordinary case, there is quite insufficient evidence apart from a person's awakening impressions to support the hypothesis that he imagines adventures whilst he sleeps. In the present section, I consider the unusual case of lucid

dream narratives. Here a person appears to remember, not events seen and deeds done, but fictitious adventures entertained in the knowledge that he is safely tucked up in bed. In such cases, is there any reason to doubt a person's word about what he imagined during sleep? And, supposing that, given the general unreliability of awakening impressions, evidence is required, is not appropriate evidence provided by recent scientific studies which demonstrate an association between the content of awakening narratives and 'signals' made during sleep?

In recent years, there has been a gradual acceptance that narratives of 'lucid dreams' are more common than traditionally supposed. LaBerge (1985) reports that lucid dream narratives can be readily elicited from certain subjects, particularly if awoken during StageREM sleep. Its seems that such narratives are in many respects similar to typical StageREM dream narratives. They relate vivid, emotionally charged adventures. LaBerge distinguishes between narratives of lucid dreams proper and the 'thinking' reports associated with awakenings from NREM sleep. On LaBerge's account, a lucid dreamer appears to remembers thoughts such as 'I'm safe in bed', 'This time I will not run from the masked figure but confront him and find out who he is', 'Ah! Now is the time to wobble my pupils. Up-down, up-down!'. It is a characteristic feature of reports of lucid dreams that a distinction can be drawn between the 'I' who is aware of the fact that he is asleep and is capable of deciding to wobble his eyes and the 'I' who is simultaneously represented as a character in the dream-world of tigers, masked figures or whatever. A lucid dreamer appears to remember, in addition to the thoughts and actions of a person asleep in bed, the thoughts and actions of a character who believes himself to be pursed by masked men, to be flying to the moon, to be squaring the circle, or whatever.

It seems to me that, on LaBerge's account of the phenomenon, the characters and events of a lucid dream are imaginary or fictitious. I am tempted to say that the 'I' of the dream does not *really* believe himself to be pursued by a masked man. Either the 'I' of the dream does not exist or he is the man asleep. A fictitious character has only fictious beliefs. A man asleep, in the normal case, has no thoughts about what is going on around him and, in the extraordinary case of lucid dreaming, is aware of the fact that 'it is only a dream'. But LaBerge himself is at pains to stress the vividness of lucid dreams and their (potential) importance for us. And so he encourages the temptation to retort, "In my dream I *really did* believe myself to be confronted by a masked man". There is not really (?) a conflict here. Just another example of the futility, pointed out by Austin, of attempting to clarify philosophical issues by stressing the word 'really'.

Various experiments have attempted to induce behaviour during sleep. Most of these experiments are designed to test hypotheses about information processing during sleep and are unconcerned with questions about a person's awareness of his responses or about whether these responses have any communicative intent. A few studies referred to by LaBerge have sought to interpret experimentally-induced behaviour as a response to conscious mental activity. One study conditioned button-pushing responses to 'mental images' whilst awake. But observations of subsequent button-pushing during StageREM sleep were far from persuasive that the subject was entertaining images. They are unpersuasive, at least, where the subject has no apparent recollection of his nocturnal behaviour. Such 'signals' are all too easily dismissed as automatic reflexes, very likely resulting from physiological changes similar to those going on when a person visualises something when awake, but not implying the occurrence of some additional psychological fact about imagination during

sleep. However, LaBerge's own work appears to demonstrate the possibility, not merely of inducing behaviour (eye-movements) previously intended to indicate dreaming, but of establishing a correspondence between such behaviour and what the subject subsequently appears to remember upon awakening.

LaBerge reports experiments in which the subject and experimenter agreed upon distinctive patterns of eye-movements ("Up-down, up-down!") which were coded to allow the subject to indicate both the occurrence and content of his lucid dreams. LaBerge reports the discovery of correlations between such coded signals (e.g. "I'm flying") and the content of lucid dreams related upon subsequent awakening. And he reports that signals of the occurrence and content of lucid dreams also bear association with the occurrence and duration of StageREM sleep and other physiological markers of dreaming. Such correspondence, LaBerge is confident, cannot be regarded as merely the by-product of unconscious bio-chemical processes occurring during sleep.

There is plenty of room for doubt and puzzlement about what experiments on 'signalling' from sleep have so far shown. LaBerge takes his experiments to demonstrate that sometimes a person is aware of the fact that he is asleep in bed, whilst at the same time entertaining imaginations of the most extraordinary vividness, often identifying himself as a character embroiled in events and actions which appear, as LaBerge would have it, 'more real that waking life'. I have a rather mean suspicion that attempts to replicate some of the results (which LaBerge presents with a grating enthusiasm and confidence) will prove problematic. In the meantime, I am content to give LaBerge the benefit of the doubt and merely point out that the scientific interest of his work does not stand or fall with his assumption that lucid dreams are 'experiences' remembered from sleep.

The results of LaBerge's research suggest that the phenomenon of lucid dreaming is a special case in that only here does psycho-physiological research into StageREM sleep retain any confident claim to have established content-specific associations between what happens during sleep and what appears to be remembered upon awakening. Furthermore, the employment of pre-sleep intentions to modify both observable behaviour in sleep and waking narrative looks like a means of demonstrating that behavioural or peripheral correlations are mediated by a common underlying cause. The demonstration that narratives of lucid dreams have a content-determining causation in sleep has an intrinsic scientific interest whether or not it is supposed that the lucid dreamer represented or entertained the content of his dream during sleep and remembered this 'experience' upon awakening. Correlative studies of 'signalling' during sleep, like psycho-physiological studies of dreaming in general, are perhaps better designed to test the hypothesis that awakening narratives have an causation akin to waking perception or imagination than to confirm the hypothesis that awakening narratives are genuine memories of events perceived or imagined. But this point is not crucial to my case against the Received Opinion. I do not see any clear reason why scientific studies could not show that lucid dream narratives are memories of imaginings from sleep. The point crucial to my case is that there is no good reason why confirmation in the special case of lucid dream reports, of the hypothesis that episodes are remembered from sleep, should be thought to support a general defence of the Received Opinion.

LaBerge's discussion of lucid dreaming seems to presuppose that both the lucid and the non-lucid dreamer stand in some quasi-perceptual relationship to images presented to him during sleep. The difference, on LaBerge's account, is that the lucid dreamer recognises that these presentations are merely images

whereas the ordinary dreamer is duped into supposing that the world corresponds to his auditory, tactile and visual impressions. LaBerge does not allow that the lucid dreamer escapes deception because the images passing before his mind's eye lack the vividness of ordinary dreams. He does not suggest that the lucid dreamer differs in being sober enough to recognise the improbability or impossibility of what he imagines. Presumably LaBerge supposes that there are other grounds upon which the lucid dreamer recognises that he is lying in bed asleep. But he does not spell them out.

Shaffer (1984) supposed that dreams cannot be reduced to hallucinations or vivid imaginings, nor any of the mental phenomena which occur in waking life. He considered it possible, nonetheless, that some waking phenomena, in particular 'occurrent thoughts', may be enjoyed during sleep, and that such thoughts may be simultaneous with and directed towards our dreams. It seems to me that here Shaffer, despite having distinguished between dreaming and imagining, and despite having no professed sympathy for an 'inner picture' account of imagination, has fallen into thinking of dreaming as a quasi-perceptual relationship between an 'I' (which, in the special case of lucid dreaming, is simultaneously aware of the fact that he is lying in bed) and some 'unique state of consciousness' enjoyed during sleep.

Shaffer and LaBerge commonly suppose that lucid dreaming is having thoughts and intentions about something else, the dream, of which the dreamer is simultaneously aware. Both suppose that non-lucid dreaming is simply awareness of a dream *minus* the accompanying second-order thoughts and intentions which sometime intrude upon a dreamer to make him 'lucid'. The disagreement between Shaffer and LaBerge is only about the nature of the object of consciousness. LaBerge seems content to suppose dreams to be tactile,

auditory and visual impression. Shaffer insists that dreams are a special kind of mentation exclusive to sleep.

In Chapter Two ("The Unimagined and Unimaginable") I argued that, if we adopt a model of consciousness as a kind of inner picture-show of sensory impressions, then memory, however perfect, of what we thought, intended and imagined cannot sufficiently account for our knowledge of the events and characters of our dreams. But my conclusion was not to agree with Shaffer that dreaming must be some irreducible 'state of consciousness'. My conclusion was that dreaming is not a state of consciousness at all! The argument of Chapter Two did not show *a priori* that dreams are not imaginary episodes. It showed only that dreams cannot be reduced to items of introspection. In allowing that scientific studies of lucid dreaming might show that, in some special cases, dreams are episodes remembered from sleep, I suppose that a person's memory of what he imagined can properly be accounted knowledge of past events without supposing that imagination is a kind of 'inner-perception'.

PART TWO

SCIENTIFIC STUDIES OF SLEEPING AND WAKING

CHAPTER FOUR

'PERCEPTIONS' DURING SLEEP

(Correlative Studies in the Physiology and Neurobiology of Sleep)

1. The hypothesis that StageREM sleep is a period of 'perceptual activity' should be taken metaphorically to express the Causal Hypothesis that, at some more or less central level, there is a similarity between the bodily functions underlying waking perception or imagination and the acquisition of a disposition to tell a dream.

In Chapter One I argued that there is insufficient reason to infer from the fact that upon awakening a person appears to remember events seen and deeds done that, during sleep, he seemed to see or tried to do these things. In Chapter Two, I argued that the introspective model of imagination and other 'items of consciousness' cannot account for our apparent knowledge of the characters, objects and events of a dream. The ability to tell a dream cannot be reduced to memory of thoughts and intentions directed towards images. Even if a person telling a dream did coincidentally remember thoughts and images from sleep, the ostensible content of a typical dream narrative is too unlike a series of mere thoughts and images to bear identification. My conclusion from Part One (What Appears To Be Remembered) was not merely that there is no general account of what dreaming consists in, as if the fact that we do not remember

illusory perceptions, thoughts or images shows that we do remember something else, some irreducible mental activity. My conclusion was that when we 'remember dreams' we generally remember nothing of what happened during sleep.

In the previous Chapter (Chapter Three "'Actions' During Sleep") I allowed that the scientific study of sleep might have shown that in some special cases (e.g. sleepwalking, sleeptalking, night terrors, prearranged 'signalling' from sleep) a person remembers actions or events from sleep. But the evidence turned out to show that even in the cases of sleeptalking and lucid dreaming, where there is some association between the story a person tells upon awakening and what he was observed to do or say during sleep, the disassociations are sufficient to render doubtful the hypothesis that a person was expressing during sleep thoughts and intentions about what he seemed to perceived or what he imagined. This conclusion was not an objection to the endeavours of researchers in the field. For, I argued, the truth or falsity of the Received Opinion is inessential either to 'cognition' inferred according to Arkin's information processing model of sleeptalking or to 'imagination' inferred according to LaBerge's physiological model of lucid dreaming.

In this Chapter, I pursue the theme of the previous. I argue that scientific work on sleep and dreams is consistent with the conclusion that a person telling a dream is typically not remembering mental acts, events, states or processes from sleep. I argue that neither evidence of physiological activity peripheral to the central nervous system (e.g. eye movements, muscular twitches, penes erections, etc.) interpreted as 'covert behaviour' during sleep, nor evidence of neurological activity of the forebrain interpreted as critical responses to internally generated 'stimuli' supports the Received Opinion. This does not imply any *failure* of scientific work. For the point of experimental research is

not to justify the Received Opinion. Of course, I do hope to persuade anyone who remains confident (despite the objections presented in Chapters One and Two) that experimental methods will yet justify the Received Opinion, that the actual results fail to measure up to his expectations; and I make an effort to clarify the sort of psycho-physiological correlations that the would-be defender of the Received Opinion (unimpressed by the arguments of Chapters One and Two) might hope to find. But my aim thereby is not to suggest that the scientific hypothesis that dreaming is a 'perceptual activity' is doubtful. My aim in this chapter is to show that the scientific talk of dreaming as an 'experience' akin to perception or vivid imagination has a significance quite appart from the truth or falsity of the Received Opinion.

The scientific hypothesis that StageREM sleep is a period of 'perceptual activity' should not be confused with the hypothesis that a person's awakening narrative is a memory of what during sleep he perceived or seemed to perceive. On my account, it is reasonable for scientists to suppose that, at some level of 'centrality', there is a similarity between the causal explanation of telling a dream and of reporting events witnessed. The scientific hypothesis that StageREM is a period of 'perceptual activity' should be understood metaphorically to assert such a causal analogy. Admittedly, scientists often talk as if the demonstration that the physiology of StageREM sleep is remarkably akin to the physiology underlying waking perception shows more than just that. They often talk as if, in addition, it shows that the person's awakening 'report' of a dream was, after all, 'correct'. This is to confuse the experimental plausibility of the Causal Hypothesis (that a person's awakening narrative as if of events witnessed is produced by mechanisms of a kind which typically produce memories of events witnessed) with contentious

philosophical claims about the reference of first person psychological sentences.

In the 1960s the hypothesis that StageREM sleep is a period of perceptual activity centred round the Scanning Hypothesis (that the eye movements of the sleeper indicate that he supposes himself to be looking around at events he remembers as a dream upon awakening) whereas in the 1980s the hypothesis came out as an anthropomorphic characterisation of the Activation-Synthesis stimulation of the cerebral cortext (that the forebrain is making the best interpretation it can of stimuli autonomously generated in the brain-stem). I argue that the scanning hypothesis should not be regarded as equivilent to the Received Opinion. If it were equivilent, then the failure of psycho-physiologists to replicate and enlarge upon the content-relative correlations which gave rise to the scanning hypothesis in the early 1960s should be taken to cast further doubt upon the truth of the Received Opinion. I also argue that the successor to the scanning hypothesis, the activation-synthesis hypothesis, should also be distinguished from the hypothesis that, in telling a dream, a person remembers what he seemed to see and tried to do during sleep. The activation-synthesis hypothesis is a colourful means of expressing an analogy between the neural excitation of the forebrain awake and asleep which is supposed to explain the 'formal' rather than content-specific character of the narratives we are disposed to tell if awoken from StageREM sleep rather than from NREM sleep. A person asleep or awake does not engage in the critical tasks attributed to his forebrain. The hypothesis that the motor responses of the forebrain are inhibited by a somatic paralysis of the limbs and larynx is not the hypothesis that a person is frustrated by sleep from doing what he supposes himself to do.

2. Physiological activity peripheral to the central nervous system interpreted as 'covert behaviour' during sleep could not show that dreams are perceptions or vivid imaginings remembered from sleep.

Sometimes scientists discussing the significance of their studies of eye movements, heart beats, galvanomic skin responses, penes erections, twitches in the limbs, vibrations in the vocal chords, and so on talk as if their results might show not merely that there are interesting similarities between the peripheral physiology of waking and sleeping but that, despite superficial 'outward appearances', a person seems to see or vividly imagines during sleep the episodes he subsequently recounts as a dream. For a while, in the 1960s, it was thought that content-specific correlations had been discovered between eye-movements during sleep and awakening narratives. For example, horizontal eye-movements were associated with a dream of watching a tennis match, vertical jerking movements corresponded to the number of steps climbed in a dream. Interpreted on the assumption that a person is in the grip of an hallucination, it was supposed that the eye movements were covert actions of 'looking around' or 'following the events of a dream' [Roffwarg, Dement, Muzio & Fisher (1962)].

In Chapter One, I demanded evidence either that there is something a person perceived, albeit under a false description, or that there is something a person does, according to which it may be inferred that he has some false belief about his environment. The suggestion reconsidered in here is that the appropriate evidence is somehow 'hidden' from observers unequipped with the appropriate scientific instruments and techniques. The difficulty I found with this suggestion in Chapter One remains. The problem was not merely one of doing the scientific work and discovering 'covert behaviour' or 'internal stimuli' comparable to the physiological or neurophysiological activities

which typically intervene between perceiving events and remembering them. The problem was also a problem about showing that the person asleep was *aware* of any such tiny images on his retina, twitches in his limbs, and so on. The suggestion that special equipment is required to observe the appropriate stimuli or behaviour immediately calls in question the hypothesis that the dreamer perceived or intended the 'internal stimuli' and 'covert behaviour' identified by scientific investigations.

I argued in Chapter One that a person's apparent memories upon awakening do not show that during sleep he was aware of movements of his eyes, twitches in his limbs, or neurons firing in his brain stem. For associations observed by scientists between tiny muscular contractions, pulsating nerve fibres or such like during sleep and a person's waking narrative of a dream must be balanced against the disassociations between what a person appears to remember and what passed in the night. I argued that, even if it were commonplace for a person asleep to exhibit partial movements which, considered in themselves, might be interpreted as attempts to 'act out' the intentions of his dream, a wider view of his behaviour and responses readily contradicts the hypothesis that he was trying to respond to illusory objects. If, for example, a person moves his eyes back and fore and later appears to remember having watched a game of tennis, there is some reason to suppose that he remembers seeing or seeming to see a rally of ground strokes. But the weight of evidence is always relative to the context of our investigations. The discovery that the person had his eyes closed hits the scales like a fudge doughnut on Monday morning. The reasons for concluding that he was unaware of the movements of his eyes easily out-balance those which suggest that the movements were intentional actions. Of course, the association between eye-movements and waking narratives remains. It demands explanation. There is, one might reasonably suppose, an interesting

causal connection between the eye-movements and the subsequent impression of memory. But the causal explanation will not confirm that a person appears to remember a cross-court rally because, during sleep, he seemed to see a cross-court rally, no matter what the lateral movements of his eyes, the twitchings of his muscles, the electrical activity of his brain, etc.

According to Dennett (1976) what outraged people most about Malcolm's (1959) essay on Dreaming was the claim that psycho-physiological work on dreaming is irrelevant to the ordinary concept of dreaming. In particular, Malcolm argued that physiological investigations of sleep 'cannot' confirm or disconfirm the hypothesis that a person perceives, thinks, imagines, intends anything whilst asleep. In effect, I agree with Malcolm that, given what we ordinarily know about sleeping and waking, physiological evidence cannot surprise us with the discovery that dreams are illusory perceptions or vivid imaginings. My argument, however, is not that physiological evidence is irrelevant, but that it is supplementary to and must be weighed against evidence of 'external' behaviour and environment.

Taking the scanning hypothesis seriously, as a statement of the Received Opinion, the negative results clearly outweighed the positive. Further explanation is required to say why the eyes of a person who believes himself to be watching a tennis match should follow patterns not determined by light waves striking his retinas. Further explanation is required of why a person does not do and say the things we might expect of one hallucinated. Further explanation is required of why a person frustrated in action does not realise that he is. Attempts at such explanation have never amounted to more than vague speculations about the partial inhibition of the normal 'channels' of kinethetic-awareness and motor-control. And the form of these 'explanations' is to assign partial awareness and control, not to the person but to some part of

him, his forebrain, which is the deluded and frustrated victim, not of external forces, but of the (mis)behaviour of other parts of his body, of his brainstem, and his motor and optical systems.

If research into the 'scanning hypothesis' had been fundamentally concerned to justify (or falsify) the inference from 'covert behaviour' to false perceptual beliefs and frustrated desires one must be puzzled why it took scientist so long to see that their results did not justify that inference. Either one must suppose that the scientist's who found the scanning hypothesis appealing were guilty of selective vision, double standards and ad hoc discrimination. Or, much more pleasantly and plausibly, one should recognise that the truth or falsity of the Received Opinion was never seriously at issue in their research. Being a pleasant and plausible sort of chap, I am inclined to think that scientists were not so very seriously in error. Finding even a few content-specific psycho-physiological correlations was an inspiring achievement. As long as the 'scanning hypothesis' suggested experiments which might replicate their successes, the scientists had reason to hold on to it. But that does not mean that their research implied the truth of the Received Opinion. It does not mean that the goal of this research was the justification of the Received Opinion.

3. A similarity between the peripheral physiological activity ('covert behaviour') underlying waking perception and the acquisition of the disposition to tell a dream might suggest an extended use for the term 'perception' in the absence of dispositions to concurrent speech and behaviour, a convenient modification of the ordinary notion of perception.

I see two alternative interpretations of the evidence offered in support of the scanning hypothesis in the 1960s. The retrospective view taken by today's

leaders in the experimental field, e.g. Hobson (1986), is that occasional instances of correlations between eye movements during sleep and waking reports are the marginal effects, usually inhibited, of *central* brain functions common between StageREM sleep and waking perception. This view perhaps fails to reflect the ambitions of the scientists who advanced the scanning hypothesis during the 1960s. These scientist wrote as if the experimental methods at their disposal could of themselves decide an issue about whether or not StageREM sleep is a period of 'perceptual activity'. Daniel Dennett (1976) argued that evidence of 'covert behaviour' offered in support of the scanning hypothesis has a theoretical role over and above its role in supporting the assumption that there is a similarity between the central brain functions underlying dreaming and perception. In this section, I endorse, albeit with some reservations, Dennett's account of the ambitions of the psycho-physiologists of the 1960s. In the section following, I argue that, by the standards of proof the scientists set themselves to distinguish StageREM from NREM sleep, it turned out that StageREM sleep is *not* a period of 'perceptual activity' during sleep. By the time Dennett published his account of what issues about dreaming might be decided by scientific investigation, the scientists had already abandoned the attempt to establish that the acquisition of a disposition to tell a dream has a peripheral physiology akin to waking perception or imagination.

In Chapter One I approved Squires' (1973) claim that, even if the registration of stimulus had a subsequent effect on a person's narrative as if of events witnessed mediated by mechanisms similar to those which explain a witnesses memory for what he saw and did, it would not follow that, after all, the person was aware of the stimulus during sleep when it was registered. Daniel Dennett (1976) implicitly agreed with Squires that, in the absence of concurrent dispositions to speech and behaviour during sleep, the mediation of a

'subliminally' registered stimulus by central brain processes typical of waking perception would not confirm that a person was aware of something at the time the stimulus was registered. What Dennett suggested was that there is a question about whether dreaming is an 'experience' which cannot be answered in terms of theories about information processing within the central nervous system, and that this question may be seen, in part, as a question about the peripheral physiology or 'covert behaviour' underlying the acquisition of the disposition to tell a dream if awoken.

Dennett argued that some, seemingly important, questions about dreaming would remain unanswered even supposing that our disposition to tell a dream were produced by the central processes akin to those producing a witness' ability to say what happened. He argued that a Representational Theory of belief and memory of the kind envisaged by Fodor would not decide between the hypothesis of an hallucination of memory upon awakening caused by subliminally activated brain processes in sleep and the hypothesis of an hallucination in sleep remembered upon awakening:

> "Suppose at noon Jones, who is wide awake, suffers some event in her brain that has a delayed effect: at 12:15 she will 'recall' having seen a ghost at noon. Suppose her recollection is as vivid as you like, but suppose her actual behaviour at noon (and up until recollection at 12:15) showed no trace of horror, surprise, or cognizance of anything untoward. Had she shown any signs at noon of being under the impression that something bizarre was happening, we would be strongly inclined to say that she had had a hallucination then, was experiencing it then, even though she did not recount it to us fifteen minutes later. But since she did not *react* in any such telling way at noon, but proceeded about her business, we are strongly inclined to say the hallucination occurred later, at 12:15, and was a *hallucination of recollection* of something she never

> experienced although the cause of the hallucination occurred at noon" [BS. p.146].

Dennett suggested that the research of the kind carried out by psycho-physiologists like Dement, Foulkes and Rechtstaffen into the peripheral physiology of sleep directly addressed an issue that cannot be comfortably framed within information processing theories.

However, Dennett also saw that the physiological evidence is far from convincing:

> "Since the events responsible for [Jones'] later capacity to recall did not contribute to her behaviour-controlling state at the time, they did not enter her experience then, whatever their later repercussions. But then when we apply this distinguishing principle to dreams, we find it quite likely that most dreams are not experiences. Whereas nightmares accompanied by moans, cries, cowering and sweaty palms would be experiences, bad dreams dreamed in repose (though remembered in agony) would not be, unless, contrary to surface appearances, their entry into memory is accomplished by engagements of the whole behaviour-controlling system sufficiently normal to distinguish there cases sharply from our imaginary delayed hallucination.
>
> If it turns out that sleep, or at least that portion of sleep during which dreaming occurs, is a state of more or less peripheral paralysis or inactivity; if it turns out that most of the functional areas that are critical to the governance of out wide awake activity are in operation, then there will be good reason for drawing the lines round experience so that dreams are included. If not, there will be good reason to deny that dreams are experiences." [p.146]

Here, Dennett seems to suggest that there is an intrinsic interest in the success or failure of a model of covert perceptual behaviour during sleep. The interest of the peripheral physiology such as the 'scanning' movements is not merely to

point the way towards content-specific correlations which might, in some future culmination of the labours of cognitive science, be systematically explained at a 'deeper' level in the brain. The interest, according to Dennett, is that what is decidable here and now by the physiologists will prejudice whether the labours of future cognitive scientists, generation upon generation of them all, might ever show that dreaming, the acquisition of a disposition to tell a dream, is 'experienced'.

I take Dennett's suggestion to be, firstly, that there is an issue about the peripheral physiology of sleep, independent of questions about the *content* of central brain processes and, secondly, that this issue promises to capture more of what is expressed by the Received Opinion than speculations about information processing in the central nervous system. Dennett's thought seems to have been that the distinction between central and peripheral processes parallels a distinction between representation and experience. Dennett's claim is not exactly that the issue here is whether the Received Opinion is true; but rather, that here is a (somewhat) promising *scientific substitute* for our commonplace conviction that dreams are dreamt during sleep and remembered or forgotten upon awakening, a conviction which can seem too important to our conception of ourselves to be readily given up but cannot be empirically justified. Dennett's idea was that covert behaviour during sleep *should* be adequate compensation for the loss of the rich inner world of Cartesian introspection. Empirical truths, however humble, are preferable to gratuitous mythology, at least when one's preferences are philosophical, rather than of the cuddly-bunny sort.

Dennett's account of the significance of psycho-physiological sleep research finds some support in an interesting paper, "Perception in Sleep" (1965) by William Dement, the most influential psycho-physiologist of his time. Dement noted that it is a peculiar feature of the hypothesis of perception

during sleep that a person cannot simultaneously express his awareness of events. What evidence is there that a person's subsequent narrative as if of events perceived is a report of experience he was at the time unable to express? Dement did not assume that a causal connection between what went on in sleep and what a person is subsequently inclined to say is sufficient reason to say that a person remembers what went on. He discussed the case of the sleeping mother who awakes to the muted cries of her baby all but audible to the waking ear against the background noises of the city at night:

> "She awakens with a question rather than a certainty, and only after awakening does she identify the reason. What intervened between the stimulus and the awakening certainly has the behavioural qualifications of perception, but we prefer to speak of the process in terms of discrimination and habituation." [Dement 1965 p.249]

Dement distinguished between those responses which require explanation in terms of discrimination and habituation and those which are to be explained in terms of perception.

Dement accepted that the incapacity of a person to give a contemporary report sets the burden of proof against the hypothesis of 'perception' during sleep, even where some stimulus acting on a person during sleep has an effect upon his subsequent waking narrative. What Dement argued was that there might be a justification for extending the notion of 'perception' to StageREM sleep. He argued that a justification of the use of the term 'perception' in the absence of a capacity to concurrent speech may be given by demonstrating, firstly, that there is a multiplicity of physiological variables in sleep correlated with the disposition to give a subsequent waking report and, secondly, that these physiological variables are features characteristic of a

person's waking perceptual engagement with his environment, in particular the 'scanning' movements.

Dement supposed that recent psycho-physiological discoveries could support an extension of the notion of 'perception' to StageREM sleep. In particular, he argued that the 'scanning' movements found in StageREM sleep but not in NREM sleep provide sufficient reason to distinguish responses to external stimuli presented during StageREM as 'perception'. In doing so Dement deliberately excluded evidence of the effects of external stimuli upon NREM sleep as evidence of perception. In these cases, the fact that a person's report is caused by an object in his sensible environment, albeit according to central mechanisms operative in cases of remembering what one has perceived, is insufficient reason to infer that the object was perceived.

In some respects it looks as if Daniel Dennett was playing philosophical underlabourer to William Dement's physiological modification of the commonplace notion of 'experience'. [There must be a good Dennett-Dement tongue twister in the offing here!] But the underlabouring role Dennett adopts is not simply to reconcile the teachings of scientists to the lay public, nor even to professional philosophers. His concern is as much to keep the scientists clear about what their own experiments do and do not show, to prevent them from 'rediscovering' the philosophical blunders of previous generations. Philosophy has progressed, Dennett reckons, and its progress is relevant to clear thinking in the sciences. When scientists reflect upon the the philosophical implications of their work, they are forced to re-invent philosophical wheels. And when scientists re-invent a philosophical wheel it is, Dennett laments, typically square [B.S. p.126].

Dualist assumptions, it must be said, are commonly expressed within the psycho-physiological literature. There is a strong flavour of epiphenomenal

parallelism in Dement's (1965) argument that StageREM sleep is a period of 'perceptual activity'. He spoke as if something else, the introspectable tints and twinges of 'the dream experience', are somehow purchased along with the physiological conclusion about StageREM sleep. He did not mean to identify dreaming with a central neurophysiological state characteristic of the acquisition of the disposition to tell a dream which parallels the peripheral physiology. (Am I really so surprised that psycho-physiologists working in the 1960s showed so little enthusiasm for the identity theory eagerly expounded by philosophers on their behalf?) Dreaming, according to Dement, is something else, a 'state of awareness' isomorphic to the physiological and neurological phenomena of StageREM sleep.

Daniel Dennett was well aware of the propensity among scientists to confuse empirical theory with homely 'introspectable' truths. He was concerned to show that nothing worth saving from our pre-scientific notion of 'experience' and its subjects (our dear Selves) is lost by reducing the question about whether dreaming is an experience to such open and technical questions, as whether or not there is an analogy between the peripheral physiology explaining the acquisition of our capacities to tell a dream and report events witnessed.

As I see it, even if scientists like Dement had been able to sustain the analogy between the peripheral physiology of waking perception and that of the acquisition of a disposition to tell a dream, they would not have succeeded in showing that a person is, despite appearances, aware of what is going on around him albeit under a false description. The scientific hypothesis that Stage REM sleep is a period of 'perceptual' activity presupposes that events in the sleeper's environment which influence his awakening narrative are not perceived or misperceived during sleep. Where an association between an event

in the sleeper's environment and his awakening narrative indicates that the event had a subliminal effect on him, the issue between the rival scientific hypotheses is over the characterisation of the physiological response to something of which the person was admittedly unaware, a characterisation which may be attempted at various more or less 'central' or 'peripheral' levels. Similarly, where internally generated activity during sleep operates to produce a disposition to tell a dream in the same manner as externally generated activity produces a witnesses' capacity to say what happened, it does not follow that dreaming is perceiving.

4. Physiological activity peripheral to the central nervous system interpreted as 'covert behaviour' during sleep fails to distinguish StageREM sleep from NREM sleep as a period of 'perceptual activity'.

It is sometimes supposed that scientists have shown to their own satisfaction that dreaming is an experience akin to waking perception occurring during StageREM sleep. Foulkes (1985) points out that this popular misconception has long survived the bitter disappointments which scotched the ambitions of psycho-physiologists between the late 1950s and early 1970s. The would-be defender of the Received Opinion had better be cautious before he insist that scientific observations of eye-movements, heart beats, galvanomic skin responses, penile erections, twitches in the limbs, vocal chords, inner ear or such like could decide the issue for or against him. For, by the standard the psycho-physiologists set themselves to show, by reference to the eye movements and other 'covert behaviour', that StageREM sleep is and NREM sleep is not a period of 'perceptual activity', it turned out that much of the evidence runs counter to the hypothesis that dream narratives elicited from StageREM sleep are perceptual 'reports'. Even if the analogy between peripheral physiology

asleep and awake were, as Dennett suggested, a worthwhile philosophical consolation for the loss of the Received Opinion, the prize is not one that science can so readily furnish as was once supposed. At least since the mid 1970s it has been generally recognised by researchers that the peripheral analogy between the acquisition of the disposition to tell a dream and waking perception could not be sustained. The 'scanning hypothesis' has disappeared, almost without trace, in recent work on dreaming. Even supposing that there are central processes common between dreaming and waking perception, we cannot be confident that the peripheral physiology of sleep qualifies dreaming as an 'experience', in Dennett's extended sense of the term.

Scientists who sought to establish by reference to the physiological peculiarities of StageREM sleep that dreaming is an experience akin to perception implied that failure to confirm, replicate and elaborate upon the 'scanning' movements would show that dream narratives are not genuine reports but are, rather, illusions of memory or confabulations. It was widely argued by researchers in the early 1960s that dream narratives elicited from NREM sleep are not 'valid' reports. By 'memory illusion' and 'confabulation' scientists meant that the causes of NREM narratives were different from those underlying normal cases of perceptual memory, perhaps akin to processes underlying phenomena like *deja vu*, or the unwitting confabulations of victims of amnesia due to chronic alcoholism.

William Dement (1965) took very seriously issues about the reliability and confirmation of the subject's awakening impression as if of having perceived something.

> "What really bothers most people about hallucinations and especially dreams, is the lack of any certainty that they really occurred as claimed. It seems equally

possible that descriptions of hallucinatory experiences are the artifacts of self-delusion and confabulation." [p.254]

In the early 1960s researchers were confident that there was sufficient similarity between the physiology of waking perception and that of StageREM sleep to justify the conclusion that dreaming is a perceptual activity occurring during StageREM sleep. It was supposed with equal confidence that, in the absence of such scientific discoveries the subject's awakening conviction of past awareness stands in doubt:

> " . . . the authenticity of NREM reports as reports of experience taking place in sleep will most likely remain in doubt until preawakening physiological landmark can be correlated with the content of subsequently elicited reports in the manner that Roffwarg, et al.(1962) have associated preawakening eye-movements with visual imagery reported by Ss following REM period awakening." [Foulkes & Rechtstaffen 1964 p.1003]

> "If an experience really is occurring during NREM sleep that is identical with a dream experience, why are there no scanning movements, no heart rate accelerations, no increase in spontaneous neuronal discharges? In addition, this lack of change or fluctuation in the physiological variables also means that there are no temporal landmarks to relate to the subjective reports. Accordingly, it cannot be established that NREM experience definitely occurs during sleep rather than being confabulated or elaborated at the moment of arousal." [Dement 1959 p.262]

I take the debate about the physiological distinction between StageREM and NREM sleep to illuminate just what researchers implied when they supposed StageREM to be a period of 'perceptual activity'. The widely argued hypothesis that waking narratives from StageREM sleep *are* but narratives

from NREM sleep *are not* reliable indicators of perceptions in sleep, shows what was at stake. Further, I take the failure of researchers to consolidate the supposedly unique association between the gross physiological markers of StageREM and waking narratives of 'dreams' to cast doubt on the hypothesis that StageREM is distinctively a period of 'perceptual activity'. The failure to replicate the kinds of remarkable content-relative correlations which gave rise to the 'scanning hypothesis' in the first place, and the failure to find any other satisfactory phasic indicator of 'dreaming' within distinct periods of sleep, undermined many of the assumptions which, in the minds of the researchers of the 1960s, made it plausible to argue that StageREM was a period of perceptual activity. By the standards they set themselves to *explain away* narratives elicited from NREM sleep as illusions and confabulations of memory, it now looks as if narratives elicited from StageREM should also be accounted as 'illusions' and 'confabulations'.

The difficulties which beset scientists attempting to develop a 'covert behaviour' model of perception during StageREM sleep were on two fronts. Firstly, they relied initially upon a fairly intuitive model of what the peripheral physiology of waking perception or imagination is like. This seemed to be all very well as far as the eye-movements were concerned. It was a fairly safe assumption that a person's eyes follow the objects he sees or seems to see. But the range of such an intuitive model of the covert behaviour of waking perception is very limited. It was soon found that other elements of this intuitive model failed to correlate with waking narratives. For example, penile erections are a regular part of the Stage REM cycle, one of a 'cluster' of physiological peculiarities, but these erections show not the slightest correlation with erotic content in awakening narratives. This result was widely noted in studies in the late 1950s and early 1960s. Psycho-physiologists

took from it the consolation that the result was a cruel blow to Freudian theorists who sought confirmation of the master's model of dreaming as a disguise for unfulfilled desires usually of a sexual character. LaBerge (1986), despite reviving some hope of content-specific correlations in cases of Lucid Dreams, also found no correlation of this type. The first sort of problem was finding evidence beyond the scanning movements to support the application of the intuitive model of covert perceptual behaviour to StageREM sleep, even supposing that this model was valid for waking perception, thought and imagination.

The second side to the problems besetting the 'covert behaviour' model of perceptions during sleep was that the notion that waking perception or thought or imagination has a distinctive kind of underlying physiology at a peripheral level was pretty much an article of faith. That such 'covert behaviour' should ever enable us to 'read the mind' of someone engaged in silent thought - say by measuring the vibrations in their vocal chords - was a speculation which had attracted many empirical psychologists since James. The trouble was that in the late 1950s and early 1960s, the physiology of sleep, especially the 'scanning movements', seemed like the chance psycho-physiologist had been waiting for to demonstrate 'covert behaviour' of any psychological sophistication. Researchers into StageREM sleep did not have an empirically confirmed model of 'covert behaviour' underlying waking perception, thought or imagination to measure dreaming against. Rather, sleep researchers of the 1960s found themselves in the vanguard of research supposed to demonstrate the validity of such models. Thus, discoveries in the 1960s about *waking* psychological phenomena, such as the fact that people vividly imagining a game of tennis or climbing a stair do not exhibit the kind of eye movements

which gave rise to the 'scanning hypothesis', cast doubt on the psycho-physiological enterprise which, for a brief moment, had seemed so promising.

Psycho-physiological research which attempts to give 'covert behaviour' a psychological content occupies an awkward position within psychology. It sits uncomfortably between behaviourism, introspectionism and cognitive science. Strict behaviourism never looked remotely close to specifying behavioural criteria for propositional attitudes. But strict behaviourists could complain that psycho-physiological work looked more fruitful only because it let introspectionism creep back in disguised as the 'verbal report'. Most psychologists working today suppose that content-specific psycho-physical correlations might be found, if at all, only at the neurophysiological level in central level brain processes interpreted according to some very sophisticated kind of symbol-manipulating computer program. Most contemporary psychologists would find it neither alarming nor newsworthy that psycho-physiologists working on sleep and dreaming failed to sustain and develop a content-specific model of covert behaviour.

When I first had a look at the psycho-physiological literature on dreaming, I made the mistake of supposing that the scientists were seriously addressing the issues that concerned Wittgenstein and Malcolm about whether narratives of dreams are memories of episodes known by a person during sleep. What struck me was that even on the assumption, endorsed by philosophers like Curley (1975) and Dunlop (1977), that the psycho-physiologists had the methodology to justify the Received Opinion, a closer examination of the literature revealed that the empirical results were by no means all on one side. There are serious grounds for doubting that the psycho-physiological characterisation of StageREM sleep as a period of perceptual activity is justified. Even if philosophers like Curley and Dunlop were correct in thinking

that psycho-physiology could justify a conception of dreaming sufficient to support Descartes' Sceptical Argument, these philosophers have no grounds for complacency. The scientific failure to sustain and replicate the discovery of systematic content-specific correlations between the physiology of sleep and waking narratives, together with the difficulties which have beset scientific attempts to develop in any detail the physiological analogy between StageREM sleep and waking perception should give these philosophers motive to question what account is to be given of the ordinary concept of dreaming should it turn out that the Received Opinion is in fact false.

Dennett's (1976) suggestion was that an extended analogy between the peripheral physiology of waking and sleeping might serve as a scientific *substitute* for the traditional belief that dreaming is an 'experience' akin to perception. Dennett deliberately attempted to blur the distinction between justification of and revision of the Received Opinion, suggesting that experimental work might legitimise 'the best' of pre-scientific beliefs about the mental. This is a strategy with which I have a large measure of sympathy. But since I am more certain than Dennett admitted to be that experimental research into 'covert behaviour' has failed to find anything that might substitute for the inner light of consciousness, I cannot join him in commending a technical analogy between the peripheral physiology of waking and sleeping as a persuasive redefinition of the ordinary concept of experience.

Researchers initially set themselves standards by which they meant to show (by the interpretation of peripheral physiology as 'covert behaviour') that NREM sleep was a perceptual void. It turned out that StageREM sleep itself *failed* the test of a 'perceptual activity' during sleep set by these standards of proof. Researchers, unable to elaborate the psycho-physiological distinction between StageREM and NREM sleep in the manner they originally

hoped in the 1960s, should in consistency have concluded that StageREM sleep, like NREM sleep, is a perceptual void. This conclusion was avoided by admitting that evidence of 'covert behaviour' is, after all, powerless to decide whether or not dreaming is an 'experience' akin to perception or vivid imagination. The lesson learned by researchers by the mid 1970s was that if StageREM sleep is a period of 'perceptual activity', it must be demonstrated by neurological investigations into more central brain functions.

5. An imperfect analogy between dreaming and waking perception within the margins of 'covert behaviour' might yet be supposed to indicate a close analogy at a more central level of brain function.

The 'scanning hypothesis' should not be regarded as a statement of the Received Opinion in the context of scientific research. It is better seen as a statement of a general analogy between the peripheral physiology underlying dreaming and the peripheral physiology supposed to underlie waking perception or imagination. But this view of its significance is not entirely satisfactory either, for it was already evident to researchers in the 1960s that the analogy is far from perfect at the peripheral level. The scanning hypothesis is best seen, at least in retrospect, as compatible with the discovery that the similarities between the peripheral physiology of waking and sleeping are severely limited, and that 'covert behaviour' can seldom be identified in association with the content of what a person is able to say about what he dreamt or perceived or imagined.

The experimental results offered in support of the scanning hypothesis were, it was always admitted, isolated. The same few examples keep cropping up in discussions of scanning hypothesis throughout the 1960s, indicative of the problem researchers had in replicating positive results. But even a few content-

specific correlations interpreted according to the 'covert behaviour' model are remarkable. They call out for an explanation. An imperfect analogy between dreaming and perception at the peripheral level might be supposed to be explicable in terms of a closer similarity at some more central level of brain function. I think that the best view of the significance of the 'scanning hypothesis' in retrospect is to see it as the hypothesis that occasional instances of correlations between awakening narratives and peripheral physiology interpreted as 'covert behaviour' during sleep are the marginal effects of a similarity of central brain function between dreaming and perception.

Correspondingly, the scientific hypothesis that dreaming is an 'experience' akin to perception should be understood as a metaphorical manner of expressing such a central analogy and not, as I take Dennett (1976) to have suggested, an analogy at the peripheral level of 'covert behaviour'. If, as I further take Dennett to have suggested, a central analogy mapped out according to some theory of Internal Representations, offers no substitute for homely notions about our 'inner selves' who scan such representations, then so much the worse for anyone, including the scientist, who confuses claims about the structure and functions of brain process during sleep which cause us to awake with a story to tell ('dreaming') with claims about a person's 'introspective' knowledge of episodes occurring during sleep. The scientist's notion of the 'dream experience' is properly understood as a theoretically inferred brain process, the occurrence and nature of which we are ordinarily quite unaware. It is, in fact, not an experience at all, but an unobserved process supposed to explain our dispositions to tell stories as if of events witnessed upon awakening.

The interpretation of the scanning hypothesis I prefer is not merely a *post hoc* modification of the ostensible claim of scientists in the 1960s to have established that dreaming is an 'experience' akin to perception. It goes some

way towards clarifying the notion of 'the dream experience' which was fundamental to their research goals. The problem which most concerned psycho-physiologists at the time when the scanning hypothesis evolved was to establish whether peripheral physiological distinctions between StageREM sleep and NREM sleep indicate the existence of an underlying distinction between processes in the central nervous system. The hypothesis that narratives elicited from StageREM sleep are 'reports' was, in effect, the hypothesis that StageREM narratives are caused by a homogeneous central process ('dreaming') occurring during sleep. Differences in observable physiological phenomenon between StageREM and NREM sleep were taken to support an inference to differences not directly observable by the experimental methods available. The hypothesis that dreaming is an 'experience' akin to perception or imagination is the hypothesis that this is the same kind of process as that underling waking perception or imagination. Observable similarities between StageREM and waking physiology were supposed to suggest a common underlying cause.

Rechtstaffen (1967), Stoyva & Kamyia (1968) and Goodenough (1978) each offered a defence of the notion of a dream 'experience' with explicit reference to Malcolm's (1959) philosophical objections. The defence arrived at by these scientists bears both comparison and contrast with the defence of the hypothesis that dreaming is an experience akin to perception or imagination offered by Putnam (1962a) and Fodor & Chihara (1967).

These philosphers regarded dreaming as a theoretical entity inferred from its behavioural symptoms ('telling a dream') and supposed to have further causes and effects typical of processes underlying waking perception or imagination. Some of these causes and effects (e.g. somatic stimuli, sleeptalking or other overt behaviour, scanning movements or other covert

behaviour) might be evident at the observable margins of the brain. These causes and effects are open to direct experimental test. But 'dreaming' may also be supposed to share causal properties with the central processes underlying waking perception which are inhibited from demonstrating the 'normal' marginal effect of perceptions (e.g. running away from tigers perceived) by discrepancies between the more or less peripheral physiology of sleep (e.g. somatic paralysis of the limbs). Putnam (1962a) gave no indication of how central brain processes might be functionally identified in a context where it is supposed that they do not have their normal observable causes and effects in relation to environmental stimuli and behaviour. I understand that Putnam has long since abandoned the hope that computer models of brain function might enable future scientists to identify mental tokens in the brain in the absence of their normal context. But this Great Hope remains central to Fodor's work and is, on his view, fundamental to the aspirations of scientific psychology.

In some respects, the psycho-physiological literature on sleep and dreaming reflects a conception of 'dreaming' as a central brain process having a mental content in virtue of its physical structure or normal causal role. Rechtstaffen (1967), in his influential paper on the methodology of psycho-physiological sleep research, argued that the main justification for the postulation of 'experience' in sleep was its 'predictive productivity' in leading experimenters to discover new correlations between a variety of physiological phenomena in sleep and narratives told upon awakening. A similar point is made by Fodor & Chihara (1967), supposedly in criticism of Malcolm. Malcolm's account of the concept of dreaming is said to make it look entirely fortuitous that scientists were led to the discovery of physiological correlates of dream narratives. Stoyva & Kamyia (1968) outlined a methodology of 'converging operations' which is widely cited and approved in the psycho-

physiological literature. It takes 'dreaming' to be defined by a network of probable connections, rather than as supposed by Malcolm (1959) and by Dement & Kleitman (1956) to be defined by a logical connection with a single criterion, either the waking narrative (Malcolm) or the physiological index of Stage One EEG in conjunction with REMs (Dement & Kleitman). The change in the scientist's own conception of their methodology again bears comparison with the shifting weight of philosophical opinion.

However, it would be a mistake to suppose that there was an intimate meeting of minds between reflective experimental scientists and contemporary materialist philosophers. It is clear that Rechtstaffen (1967) and Dement (1965) (1967) distinguished between the central brain processes supposed to cause our awakening narratives of dreams and the 'dream experience' proper. Rechstaffen seems to suppose (incoherently to my mind) that the criterion of 'predictive productivity' justifies the hypothesis that dreaming is a 'private' experience and not merely a theoretical entity supposed to have certain independently observable causes and effects. Hartman (1972) is explicit that dreaming (and other phenomena of consciousness) cannot be studied directly by science. (Rather, he suggests, correlations between the physiology of StageREM sleep and our retrospective reports of concurrent experiences provde a unique 'window' on the biology of StageREM sleep, as if the experience of dreaming were an epiphenomena which is revealed to be a disguised form of knowledge of 'what is really going on', i.e. bio-chemical processes in the brain!) Dement is perfectly unembarrassed about his dualism. He supposes that physiology may justify the hypothesis that dreaming is an 'experience' akin to perception. Yet he also supposes that dreaming is a mental process distinct from its physiological or neurological symptoms. The only point I can see to this distinction is to import the idea that we have introspective and

retrospective knowledge of something ('the dream') which ultimately needs no scientific justification after all!

Dennett (1976) saw very well the discrepancy between the stark theoretical notion of dreaming offered by Putnam or by Fodor & Chihara and the dualist notions of introspection unwisely imported into the discussion sections of psycho-physiological papers. It was this recognition that made him argue that considerations about the peripheral physiology of StageREM sleep might support a notion of 'experience' which would compensate for the elimination of dualist mythology from rigorous brain science. In the following section, I wish to examine the leading contemporary attempt to demonstrate an analogy between StageREM sleep and waking perception, an analogy supposed to be content-specific only (if at all) at a level which we have not yet the methodology to discriminate. I argue that Hobson & McCarley's 'activation-synthesis' model of StageREM sleep clearly demonstrates the incoherent identification of a person with his component parts which Dennett, in the tradition of Ryle and Malcolm, finds so objectionable.

6. Anthropomorphic models of the forebrain misinterpreting internally generated stimuli fail to support the Received Opinion that dreams are experiences akin to perception remembered from sleep.

In Chapter One I argued, following MacDonald (1953), that memories of illusory objects are memories of real objects perceived under a false description. If it is not shown that something was genuinely perceived, according to which an illusory object can be given a spatial and temporal identity, it is not shown that one remembers an illusory object rather than that one merely appears to remember an object. I argued that, if special scientific equipment is required to identify an object in the retina or brain, we have no reason to suppose that it

was identified without such equipment by someone who was asleep. I argued in Chapter One, that a causal connection between an event in the sleeper's sensible environment and his subsequent narrative does not in itself show that he perceived the event, even if it is mediated by mechanisms similar to those underlying paradigm cases of perceptions remembered and even if it is the kind of thing that a person would normally be able to identify by its touch, smell, sound and simultaneously report. This leaves open the scientific question about whether the mechanisms registering and mediating the effect of an event in the sleeper's environment are worth distinguishing as 'perceptual' mechanisms. But it does not leave open to scientific investigation whether there is some object external *or internal* which a person perceives during sleep and remembers upon awakening to tell a dream.

In Chapter One, I further considered whether the search for an object perceived might be side-stepped by producing evidence that a person did or intended to do things which are rationalised by attributing to him false perceptual beliefs, subsequently remembered. I argued that, even supposing it were usual that something in a person's nocturnal behaviour 'corresponds' to the actions of his dream, the evidence remains on balance that, in a typical case of telling a dream, a person was unaware of his behaviour during sleep and does not remember doing or trying to do anything. For this, and for other reasons advanced in the present Chapter, it follows that physiological evidence of eye movements and other 'covert behaviour' during sleep fails to support the attribution of false perceptual beliefs corresponding to the dream told upon awakening. Failure to identify behaviour during sleep as actions remembered upon awakening, returns us to the problem of finding some object which is perceived during sleep under a false description. Dement clearly spotted the problem :

> "There can be little question that dreams count as hallucinations. Accordingly, if hallucinations are to regarded as perceptual phenomena . . . then it follows that dreams must also be accorded that status. But perceptions of what?" [Dement 1965 p.253]

The hypothesis that StageREM sleep is a period of 'perceptual activity' has survived the 'scanning hypothesis' and is best represented by the equally controversial Activation Synthesis model, originally advanced by Hobson & McCarley (1977). According to these scientists, what is perceived during StageREM sleep is a discharge of neurons in the brain-stem, which is registered by the forebrain *as if* it were the effect of a person's perceptual engagement with his sensible environment.

Sometimes the scientists speak as if a pattern of electro-chemical impulses or 'stimuli' in the brain were the object of perception rather than a neurophysiological activity characteristically mediating between the objects of perception (alarm-clocks, water-sprays, flashlights, perfumes, and so on, that we can hear, touch, see and smell) and the behavioural responses characteristic of someone who perceives or misperceives such objects. This confusion is compounded by occasional lapses into anthropomorphic talk of the forebrain 'interpreting' or 'perceiving' impulses from the brain-stem. The tendency of scientists to speak in this manner should not be taken to give independent credibility to the claim of philosophical materialism that every type of first person psychological sentence - if it is true of anything - is true of some type of neurophysiological state which is the typical cause of the utterance of sentences of that type. I do not suppose that scientists who talk as if impulses in the brain-stem were the objects of perception would seriously claim to have explained a person's familiar capacity to identify or misidentify

alarm-clocks and the like in terms of an alleged capacity to identify or misidentify electro-chemical impulses by their ('inner'-)sensible qualities.

Hobson (1985) (1989) is perfectly clear that systematic content-specific correlations between types of dream narrative and types of brain process are not within the scope of present day science. The isomorphism postulated by the Activation-Synthesis theory is supposed to hold statistically between 'formal' features of dream narratives and relatively gross characteristics of brain function in StageREM sleep. The theory does not attempt to explain why X dreamt p at time t. The most striking 'formal' features of narratives elicited from StageREM are the predominance of visual imagery and the unexceptional occurrence of bizarre and impossible events. These are the features the Activation-Synthesis theory is primarily designed to explain. Hobson (1989) laments that even after 30 years of laboratory sleep-research the formal aspects of dreaming remain ill-defined and unquantified. But he gives an example of the more detailed kind of formal feature that the Activation-Synthesis hypothesis may be elaborated to explain:

> "A single example may help make the point: it is necessary and sufficient (for the isomorphist) to know that all well-remembered dream reports describe colour and that the common supposition that dreaming is colourless (the 'black and white' theory) is an incorrect inference related definitively and exclusively to the problems of recall (an after-the-fact memory defect). This means that no state-specific change in higher-order visual processing need be invoked - or sought - in developing a physiological state correlate for dreaming; rather a state dependent change in memory is to be postulated - and its neuronal correlate sought in experimental animal studies" [p.305].

The Activation-Synthesis hypothesis, then, does not postulate type-type correlations between brain processes occurring during sleep and the propositional content of dreams dreamt.

Hobson (1989) takes the view that "dreaming is properly considered delusional because subjects have no insight regarding the true nature of the state in which they have these unusual sensory experiences" [p.287]. There is a certain ambiguity in this statement. On the one hand, it may be taken as an endorsement of the Received Opinion that dreaming is a sensory experience occurring during sleep. On the other, it may be taken to mean that, despite our confident claims to remember what happened during sleep, we commonly have no knowledge of the genesis of our apparent memories upon awakening. (No wonder, since 'the true nature' of our state is only now revealed by the hottest discoveries of Harvard neuroscience!) Like Dement and Rechtshaffen before him, Hobson supposes himself to be obliged to affirm our 'faith' in the 'reports' of his human subjects:

> "One philosophical problem with a strong impact upon the isomorphist agenda is the unconfirmable nature of all subjective experiences. And this is compounded by the difficulty of access to the mind in sleep . . .
>
> It may be worth underlining this *problem of subjectivity* which is ultimately irreduceable - even under the instrumental conditions of the sleep laboratory. The scientist interested in mind thus has no choice other than to accept the reports of his experimental subjects as honest, accurate and truly retrospective - all three dubious, fallible and unprovable assumptions" [299]

Hobson comes close to recognising that the authority we commonly attribute to a person's narrative of a dream is, as Malcolm (1959) urged, just not grounded upon the kind of assumption that could be confirmed or disconfirmed by scientific investigation. Yet he is unable to break with the idea that an assumption

about the reliability of 'subjective reports' is essential to a scientific theory of dreaming.

This failure to distinguish clearly between, firstly, the recognition (prior to and independent of scientific investigations) that the content of a dream is nothing other than the content of a story a person is able to tell without inference or invention upon awakening and, secondly, the Causal Hypothesis (central to scientific sleep research) that such narratives are produced in a similar manner to perceptual reports, has an unfortunate consequence. It makes it look as if the anthropomorphic model of the forebrain 'misinterpreting' stimuli generated in the brain-stem is an articulation of the Received Opinion about dreaming rather than a useful means of characterising scientific discoveries (largely derived from animal studies) about the broader features of brain functioning during StageREM sleep.

Squires (1989) noted some of the explanatory loopholes which the Activation-Synthesis needs to fill in if it is to avoid some of the charges which Hobson levelled against Freud theory of the psychic motivation of dreams. Squires writes:

> " . . . it is natural to talk of the brain in personal terms. McCarley and Hobson, for example, say it interprets internal signals as if they are real, synthesizes the dream by comparing different bits of information, makes 'the best of a bad job', and similar things. So we are apt to suppose that people *must* exhibit judgement in sleep. Now the legitimacy and utility of homuncularising parts of the brain are matters of debate. But I think Professor Hobson sees the postulation of superpersonal agents here as a peril to which Freudian theory succumbed (e.g. with the dream censor). Yet if the forebrain is identified with the person we have fresh problems. Are we to suppose that the dozy uncritical sleeper McCarley and Hobson can only compare to someone in

> the grip of delusions and serious mental disorders is simultaneously doing a brilliant job in adverse conditions, making a coherent story from meagrely structured and chaotically abundant elements?" [p.315]

Malcolm (1977) attacked any kind of information processing theory on the ground that it presupposes an anthropomorphisation of brain activity. A reply to Malcolm, which Hobson would no doubt appreciate, is given by Wilkes (1979):

> "Scientists might once again complain of being misunderstood. Anthropomorphization is perfectly legitimate when what is at issue is a model of the macro-level account of brain function; how this model is to be realized, and what the micro-level account will look like, is another matter entirely. . . . The diversity of memory manifestations should also be admitted; but the neurophysiologist should insist that he can be asked to explain what is common [in their physiological basis] when and only when a physicist is required to give the molecular account that picks out all and only copies of [Malcolm's book]."

I hope I am not misunderstanding the scientists. I hope, rather, that I am clarifying, just as Wilkes means to do, the distinction between what concerns scientists and what we are ordinarily say about the 'inner activities' of the mind. I am willing enough to allow that anthropomorphic models of brain processes have a heuristic role in guiding research towards future knowledge of the micro-level complexities which will explain. But I agree [Oh, No! Not again!] with Squires (1973) (1989) that a distinction should be drawn between information processing in the brain and a person's exercising judgement. The interactions of the brain-stem, forebrain and oculo-motor systems described in ever-increasing detail by the neurobiologists, alternatively on a Synaptic and on a Systems model [see Hobson (1989) pp.294-295], should be regarded not as

mental activities of a person asleep but only as cerebral processes which explain the mental capacities he exhibits upon awakening to tell a dream.

7. The hypothesis that dreams are 'illusory perceptions' occurring during sleep no more explains the fact that our narratives of dreams are, in general, false than does the hypothesis that dreams are 'perceptions' occurring during sleep explain the fact that in some rare cases our dream narratives are true.

Malcolm (1959) claimed that it is a necessary condition for a sentence used to tell a dream that it cannot be truly asserted as an historical report; or, in other words, that 'I dreamt that p' implies 'not-p'. Malcolm qualified himself by allowing that sentences used in telling dreams may coincidentally be true descriptions of events which happened whilst he was asleep, provided that the description does not contradict or qualify the supposition that he was asleep. For example, Nightcap awakes with the impression that Cathy was murdered on the heath. And Lo! the morning paper tells that the gruesome deed was done. All is as Nightcap appears to remember except, of course, that she saw nothing, for she was in bed and fast asleep.

Imaginably, our awakening impressions could regularly correspond to facts that one could have perceived (had one been awake, in the right place, paying attention, etc.). However, in this world, coincidences between dream narratives and events that went on in the world outwith the bedroom, whilst often remarked upon, are rare enough to be regarded as completely accidental. (We often hear a politician boast of predictions which have come true, but amidst the many hundreds and thousands of predictions he made which have not come true, we should account his 'success' a mere fluke.) Such coincidences as there are do not demand a special explanation. We are under no pressure to say by what other means it was that Nightcap came to know what people generally

know only by remembering what they have perceived. This is just as well, *for what explanation could we give?*

In what follows, I mean to suggest that attempts to explain the lack of coincidence between our dreams and what happened during the night in terms of perceptual error is misguided in similar ways to attempts to explain coincidences between our dreams and what happened in terms of genuine perceptions during sleep. Such attempts 'explain' the observation that it is *as if* the dreamer had perceived (or misperceived) what was going on with the hypothesis that some other sentient being (internal or external, material or immaterial) does the job for him whist he is asleep. Whether such hypotheses explain much is a doubt I am willing to set aside. But the supposition that such hypotheses explain whatever they explain by showing that a person seemed to see or vividly imagined something during sleep is, I am certain, false.

According to Frazer, the Victorian anthropologist, some societies have taken dream narratives to have the same consequences in waking life as memories of what a person has witnessed:

> "For example ... A whole Bororo village has been thrown into panic and nearly deserted because someone dreamed that he saw enemies stealthily approaching it" [from *The Golden Bough*, quoted by Almansi & Beguin (1989) p.177].

The villagers were, we are to believe, quite clear that the warning-cry came from someone who had been sound asleep in his hammock, and not open-eyed in the look-out post. Clearly an explanation is required. But what explanation could possibly be given? According to Frazer, the exodus was not premised on a faith in visiting deities or powers of precognition. Rather, the dreamer was taken to be 'remembering what he perceived when sleep':

> "The soul of the sleeper is supposed to wander away from the body and actually visit places, to see the persons, and to perform the acts of which he dreams" [Almansi & Beguin (1989) p.177].

Of course, this is no explanation at all, even supposing, as Frazer's Indians mistakingly do, that an explanation is required. We do not so readily believe in body-less egos that nonetheless do and see the sorts of things that waking human beings do and see. We do not puzzle how one wanders afar while a leg swings gently from a hammock nor how in sleep one gazes around with eyes closed. No postulations about disembodied spectators, sixth-sense, telepathic messages or precognition would be taken to explain the reliability of a dreamer's predictions, even supposing that they were reliable.

The problem with the tribespeople's 'explanation' is not simply that it postulates the existence of an immaterial spirit with all the bodily capacities (and more) of a human being. The problem is also that, even if the story about what this ghostly body did and saw were true, and even if this story were to explain how the tribesman waking from his hammock was able to tell of the enemies' approach, it would not show that the tribesman remembers what he saw and did in the forest. Someone saw something, in virtue of which someone else, the tribesman, was able to say what had happened (perhaps even what is looked like, down to the last observable detail, as if he had a picture-image to refer to). But the tribesman did not see or do anything whilst asleep and no one remembers what happened in the forest.

Fodor's Auntie wants to tell us a fairy story. Like most of Auntie's stories, it is a warning that good children don't play games with Mental Representations. Just when the children are getting on so very well together in the playroom by pretending to be friends with Little People inside each other's heads, Auntie

likes to remind her favourite nephew that the only real friends he'll ever have are the other children themselves!

Imagine that Frazer, a true Victorian, took it upon himself to enlighten the tribespeople. He tactfully suggests that the sentinel's 'memory' is everywhere confounded by disconfirming evidence. Admitting that their look-out often miscounts his fingers, some of the villagers go back to check how many enemies are against them, in preparation for a counter-attack. They find none. Perhaps they conclude that the enemy has retreated. The Witch Doctor has a repertoire of more or less *ad hoc* explanations designed to save the hypothesis that the dreamer perceived the enemy approaching. When hard pressed by Frazer's arguments, he resorts to saying that, in this particular case, the dreamer had misperceived what was going on in the bushes. There were plenty of wild fowl rooting about that morning, and eyeless souls may as well be allowed to misperceive things on some occasions as see them on others.

Suppose Frazer persuades the Witch Doctor that there are no regular correlations between dreams and what happened in the forest. This being so, the Witch Doctor decides, there must be some explanation of why our apparent memories are so *unreliable*. Why, he asks himself, are our souls so deluded during sleep? Does the effort of body-less wandering make souls peculiarly susceptible to error, like someone intoxicated with Wullo Juice? Frazer struggles to dissuade him from this absurd fantasy. Could it be, the Witch Doctor asks, that the soul does not get abroad, but is trapped within an internal picture show, fabricated, more or less accidentally, from copies of past waking perceptions? This is good, thinks Frazer, convinced of another triumph of Christian science over primitive superstition. The Witch Doctor has found a theme. Next he decides that the Soul is not really bodyless at all but has a kind of corporeal existence within the cranium complete with its own sensors

and signalling devises. The Witch Doctor calls his discovery the Mind-Brain. Having come this far he cannot return to the mythologies of the tribe. He follows Frazer back to civilisation. There the Royal Society awards him a grant to unlock the secrets of the Mind-Brain. But do not suppose (Children!) that the Witch Doctor of this fairy tale has entirely turned his back on the land and people of his birth. After all, does he not continue to share with them a belief in an ego, albeit trapped in the cerebral cortex, which is as marvellously getting things wrong about the world as the tribesman's soul was supposed to be getting things right?

The children are awfully excited by the Witch Doctor's idea of a marvellously mistaken midget hard-wired in the skull. But the fun must stop somewhere. Auntie's stories always have a moral. "The Witch Doctor failed to observe the distinction between the mistaken midget and the sleeping tribesman!", she pedantically informs the children. "What does it matter?", someone sighs. (After all, an explanation is an explanation is an ....) "Yes, Children! Have your explanations if you will. But *what* is the Witch Doctor's explanation? Is it that the *tribesman* remembers what he seemed to see and tried to do during sleep? No, it is not! ... "

Auntie does go on a bit. What else can she do? The children are fed up of Reminders and want to get on with their games. "Let's play Mental Representations", cries Nephew, "all my other toys are broken!" The children rush off in a merry crowd leaving Aunty alone to contemplate her tedious distinctions.

8. Whether dreams are 'experienced' is a question about the nature of the Composition Process by which the disposition to tell a dream if awoken is

acquired, and not about the additional existence of some mysterious Presentation Process.

Dennett (1976) suggested several ways in which the question "Are dreams experiences?" might be turned into a question open to scientific investigation. He motivated the search for an analysis of the question by arguing that our capacity to say what we dreamt - indeed, our general capacity to 'introspect' what we immediately perceive, think, imagine, intend and so on - might, for all we know, be explained by the 'Pickwickian' Hypothesis that such information is 'subliminally' or non-consciously registered and only subsequently accessed as if it had been experienced. Dennett supposed that an information processing theorist might respond to the Pickwickian challenge by boldly stipulating that to 'experience' is just to store information for subsequent access (to'lay down a memory-trace'). This stipulation, in effect, eliminates the distinction between conscious and unconscious registration which Dennett acknowledges to be implicit in our ordinary concept of mind, as is shown by the astonishment with which Malcolm's conclusions about dreaming were popularily received.

Dennett does not see any easy means to eliminate the admittedly vague and perplexing distinction which generates the Pickwickian Hypothesis. Cognitive scientist are forced to distinguish between 'normal' and 'abnormal' entry into short-term storage. (To make this point, Dennett employs the fantasy of a demonic scientist planting 'memory traces' in the brain.) This distinction, I take Dennett to suggest, is only superficially 'statistical' and, in effect, tacitly re-introduces the kind of contrast we ordinarily suppose there to be between consciously and non-consciously registered stimuli. The task of clarifying the scientific import of the concept (or concepts) of experience cannot be ignored in laying the philosophical foundations for cognitive science.

Dennett distinguished between two elements of a theory of dreaming, between the composition process and the presentation process. He supposed that the composition process is an essential element of any theory of dreaming but doubted the importance of the presentation process. He saw it as an advantage of the proposed identification of 'experience' with 'laying down a memory trace' according to some information processing theory that it reveals the presentation process (the 'inner theatre') to be theoretically superfluous. With the departue of the presentation process, Dennett thought, goes the scientifically embarrassing need to find an 'inner self' or ego seated somewhere in the brain busily scanning the representations and computational processes postulated to explain a persons behaviour. The question about whether dreaming is an experience should, Dennett argued, be regarded as a question about the nature of the composition processes.

Dennett's distinction between the composition and presentation process is analogous to Freud's distinction between the Latent and Manifest dream. Commentators upon Freud have sometimes remarked upon the theoretical extravagance of distinguishing two repression processes, the dream-work which transforms latent thoughts into the symbolic representations of the manifest dream and the censorship of memory which makes dreams so remakably forgettable in virtue of their disturbing symbolic content. Malcolm (1959) notes that psycho-analysts readily identify the manifest dream with the dream told upon awakening, merging the explanatory roles of dreamwork and memory. It is the postulation of potentially disturbing thought-processes and their pre-consciousness transformation which explains the observable phenomena, the dream told. The manifest dream is theoretically idle.

9. Demonstration that the Composition Process occurs at a pace comparible with witnessing or imagining the story told would not show that it was 'experienced'.

We have already considered Dennett's proposal that whether or not dreaming is an 'experience' may be decided according to whether the peripheral physiology associated with the acquisition of a disposition to tell a dream is similar to that underlying waking perception or imagination. Another suggestion considered by Dennett as a technical substitute for popular notions of experience is the hypothesis that dreams are composed with a pace comparable to waking perception or imagination.

The question here is not whether it is essential to the ordinary concept of dreaming that dreams are composed during sleep or that they are composed in an order or at a pace similar to waking perception or experience. Let us suppose, for the time being, that it is both essential to the concept and true that the disposition to tell a dream is acquired during sleep with the pace and order similar to the pace and order with which a witness aquires his capacity to report the events he perceived or seemed to perceive. This supposition is re-examined in next chapter (Chapter Five - "Dreaming Without Experience"). Dennett's own view, as I read him (reading Dennett one always has one's eyes fixed in between the lines), is that the hypothesis that dreaming has a certain order, pace and duration fails to substitute for our conviction that dreaming is an 'experience' akin to perception or imagination. This view is, I think, correct. The distinction between our conviction that dreams are dreamt during sleep with an order and pace analogous to waking perception and the Received Opinion that dreams are episodes known to the dreamer as he dreams them is not made clear by Putnam (1962a). Dennett is correct to point out that something, seemingly important to our ordinary notions about dreaming (indeed

about our knowledge of ourselves generally), is missed out by the kind of functionalist justification of our conviction that dreams occur during sleep offered by Putnam. Putnam seems to reduce our conviction that dreaming is an experience to the notion that dreaming is a *process* . Dreaming may be a process, the process by which a person acquires the capacity to tell a dream if awoken, without it following that one has any knowledge of that process or of any events that result from it during sleep.

In their seminal paper on dreaming, Dement & Klietman (1957) argued that laboratory observations of associations between external stimuli and awakening narratives, together with associations between the duration of StageREM period and length of narrative, serve to settle an old dispute, hotly debated among 19th centuary psychologists interested in dreams, about whether dreams occur instantaneously or with great rapidity. Dement & Kleitman concluded that a dream is dreamt at roughly the same pace as it would takes someone to witness or imagine the events dreamt.

It is a plausible inference from the effect of events in the sleeper's environment on his awakening narrative that the composition process occurs, at least in part, during sleep and that the results are simultaneously registered in a mechanism producing our 'memory' upon awakening. But the use of external stimuli to 'mark' the occurrence of the composition process fails to give a temporal location to seeming to see, imagining or any form of 'presentation' before the mind. Squires (1973) points out that the discovery that the cause of a perceptual illusion occupies the space apparently occupied by the illusory object does not show that, after all, the illusory object has a genuine spatial location. Similarily, he argued, the discovery that an apparent memory of events occurring during sleep is caused by events occurring during sleep does not show that the events we appear to remember have, after all, a genuine

temporal location. Scientific evidence may very well show that the composition of dreams occurs during sleep, at a pace and in an order analogous to walking perception but it does not show that we were, despite outward appearances to the contrary, aware of something happening to us whilst we slept.

Association between the length of dream narrative and preceding period of StageREM sleep might suggest that it takes about as long for a dream to be composed as it would take for one to witness or to imagine a similar adventure. It might be taken to suggest further that the brain processes by which a person acquires the capacity to tell a dream are similar to those which produce waking fantasies. But it does not follow that the process of composition is, to use Freud's phrase, 'gone through' by the dreamer as he sleeps.

PART THREE

THE DISPOSITIONAL ANALYSIS

CHAPTER FIVE

DREAMING WITHOUT EXPERIENCE

1. Our narratives of dreams could survive the discovery that dreams are not remembered from sleep on the assumption that dreams are what a person appears to remember upon awakening where he is not remembering events from waking life.

In this chapter and the next, I mean to question the implications of the conclusion that the Received Opinion is false. The conclusion I draw from the empirical fact that, in telling dreams, a person does not generally remember anything of which he was aware whilst asleep is that a dream is best regarded as the content of a certain kind of fictitious story a person is able to tell without invention or inference, as if he were remembering events witnessed and deeds done (no matter how incredible or unimaginable), where he is not remembering waking episodes and whether or not he is remembering something of what happened during sleep.

By taking seriously the argument that the Received Opinion is empirically false, we arrive at a meeting point with Malcolm's (1959) argument that the Received Opinion cannot possibly be true. From here one may take Malcolm's view that the Received Opinion is not fundamental to the ordinary talk of dreaming. Alternatively, one may take Squires' (1973) view that it should not be. Whichever view is taken, there is a common interest in articulating an

analysis of the concept of dreaming which does not imply that the Received Opinion is true, yet retains, as far as possible, the empirical substance of talk about 'remembering dreams'.

Malcolm's conclusion was that the concept of dreaming is not a theoretical concept referring to something which explains our awakening impressions; it is an analytic truth that dreams are what we appear to remember upon awakening where we are not remembering. Squires, as I read him, concluded that dreaming is a bad theoretical concept; that, strictly speaking, there are no dreams; and that if talk of 'remembering dreams' is to reasonably survive the discovery that the Received Opinion is false, it should be purged of its empirical assumptions. This chapter examines the attempt to fleece ordinary talk of dreaming of any empirical implications.

The conclusion I draw is that, the denial that dreaming is a theoretical concept is an over-reaction to the discovery that the Received Opinion is false. To take a person's awakening impression as the 'sole criterion' of dreaming would be to abandon some of the empirical implications of talk about dreaming which could reasonably survive the discovery that in 'telling a dream' a person does not remember anything about what happened during sleep. In my view, our conviction that dreams are dreamt during sleep and remembered or forgotten upon awakening is a theoretical assumption open to scientific investigation. But it is a theoretical assumption distinguishable from the Received Opinion.

2. According to the Reductive Analysis the inference from what a person says upon awakening to what he dreamt is unconditional upon any assumptions about what happened during sleep, but this is an over-reaction to the discovery that in telling a dream we do not remember what happened during sleep.

In this chapter, I argue that only where certain theoretical assumptions are made about the causal explanation of our waking capacities to tell dreams can definite sense be given to the idea that a dream is dreamt at a particular time within a period of sleep. I regard Malcolm's proposition that sentences of the form 'X is dreaming p' or 'X dreamt p at time t' have no definite sense in ordinary use as a revisionary conclusion which would be reached only if it were discovered that events occurring during sleep do not determine a content-specific disposition to tell a story upon awakening. Only where it is assumed that there is a normal manner of awakening and that this manner of awakening has no particular effects upon the dreams a person will tell, if prompted and attentive, can a dream be identified, as we ordinarily suppose, according to the dreamer and time dreamt without specifying a peculiar manner of awakening necessary for him to tell that dream rather than another.

I agree with Malcolm that nothing in our ordinary lives shows that we make any assumption about the causal explanation of 'telling a dream'. Our everyday practice does not distinguish talk about dreaming during sleep from a merely metaphorical description of the fact that we awake with the capacity to tell a story which we did not have before. Phrases purporting to locate dreams at particular times within a period of sleep could, as Putnam (1962a) allowed, be mere figures of speech incorporating 'dead theories' devoid of any implication open to reasonable investigation. I disagree with Malcolm in believing contemporary scientific investigations to be relevant to what we ordinarily say about dreaming. I agree with Putnam (1962a) (1962b) that were it discovered that the dreams we tell are largely determined by what happens as we wake up, the significance of our ordinary talk of dreaming would change, even though our habits of speech might remain the same. There would be a transition from what is at present viable theory to metaphorical idiom. Were

it found that there is no cluster of generalisations enabling us to predict what dream a person would tell if awoken, then we would have discovered reasons to regard the connection between dreams and awakening narratives as analytic (unreviseable by empirical observations), and to regard talk of dreams being dreamt during sleep as a mere figure of speech.

Where I disagree with Putnam is over his supposition that scientific investigations are relevant to ordinary talk of dreaming *because* both scientific investigations and ordinary talk imply the Received Opinion. On my account, the common bond between ordinary talk and scientific research is established by the hypothesis that dreaming is the acquisition during sleep of an ability to tell a particular story as if of events witnessed upon awakening without invention or inference which is not a memory of waking life. There is no implication that the dream told refers to events occurring during sleep or that the content of the dream was in any sense represented or experienced by the sleeper prior to awakening.

3. Should it turn out that our common assumptions about the causal explanation of 'telling a dream' are false, the Reductive Analysis may yet prove to be the best interpretation of the concept of dreaming, but this conclusion, unlike the conclusion that the Received Opinion is false, depends upon the results of scientific investigation.

In this chapter and the next, I attempt to show that the conclusion that the Received Opinion is false does not lead directly to the reduction of dreaming and remembering dreams to merely appearing to remember episodes upon awakening. Ultimately, I have some doubt whether that conclusion can be averted. But the only possible salvation I can see lies in the Dispositional Analysis of dreaming and remembering defended here.

In preferring the Dispositional Analysis over the Reductive Analysis, I assume, perhaps unreasonably, an optimistic view of the prospect that experimental work on sleep will enable us to chart the acquisition, retention and loss of the capacity to tell a particular dream. This optimistic assumption has the point of making clearer by disagreement with Malcolm that scientific investigations into sleep are relevant to dreaming. The previous chapter (Chapter Four 'Perception During Sleep') has already discussed some of the reasons for questioning the grounds for optimism about the scientific justification of the assumption that the disposition to tell a dream of a particular content is acquired and retained during sleep.

The argument of this chapter and the next is that dreaming could be identified with a general disposition to tell a certain story if awoken in a 'normal' manner (and prompted, etc.) and should be where there is any reasonable hope that such a disposition might be discovered. I do not recommend the Dispositional Analysis on the grounds that it implies a well-confirmed or even empirically plausible hypothesis. The fact that the Received Opinion is clearly false is sufficient reason to disassociate ordinary talk about dreaming from that opinion. But the fact that the Dispositional Hypothesis (that the dreams we tell are determined by events occurring during sleep and not by contingencies of awakening) is uncertain or even doubtful is not sufficient reason to disassociate it from ordinary talk about dreaming where to do so would be to render ordinary talk about dreams being dreamt during sleep and remembered upon awakening into empirically empty metaphor.

In the Conclusion, I consider that, perhaps, reasonable hope of predicting from observations of sleep what story a person would tell if awoken has now been exhausted and that either Malcolm's conclusion that dreaming is not a theoretical concept or Squires' conclusion that it is a bad theoretical concept is,

in the end, correct. The failure of psycho-physiological research to establish content-specific indexes of dreaming points to the conclusion that dreams are not dreamt during sleep and remembered upon awakening. If, as seems likely, we were to go on speaking about 'remembering dreams' regardless of the empirical results, there would be reason to suppose, as Malcolm had it, that talk of remembering dreams is just a manner of describing, without explanation, the fact that we awake with the capacity to tell without invention or inference a fictitious story as if of events witnessed which we did not have before falling asleep. But that is a conclusion I think we should resist so long as we can envisage any program of experiments which might tend to show that the disposition to tell a particular dream is acquired and retained during sleep.

4. The Dispositional Analysis may be regarded as an elaboration of the Reductive Analysis, adding to it the minimum assumptions required to give empirical substance to our commonplace conviction that dreams are dreamt during sleep and remembered or forgotten upon awakening.

In this chapter, I argue that some modification of the identification of a dream with the content of an awakening narrative which is not a memory of waking life is mandatory if the Reductive Analysis is to furnish a plausible analysis of the ordinary concept of dreaming. Some modifications can be made to allow for a distinction between a person's awakening impression of a dream and the facts about the dream itself without importing theoretical assumptions about what went on during sleep. We ordinarily allow that a person's actual account of a dream might be corrected by what he would have said in 'better' waking circumstances. A rough but concrete account can be given of these circumstances avoiding either an empty stipulation that the dreamer have 'whatever it takes' to judge the matter and without presupposing empirical details about

what goes on in sleep. But we also allow that a person's account of a dream dreamt earlier in the night may be corrected according to what response he would have given if he had been awoken at that earlier time. The time within a period of sleep at which a person acquires a capacity to tell a particular story if awoken is relevant to the identity of the dream told when he actually awakes. This identification cannot be made without regard to empirical facts about what went on during sleep. I attempt to demarcate the border at which elaboration of the Reductive Analysis transforms it into the Dispositional Analysis.

The Reductive Analysis (which is, allowing a few liberties of interpretation, the analysis of the ordinary concept defended by Malcolm) can make room for the possibility of an untold dream or a dream incorrectly narrated. A person's actual awakening narrative may be corrected by what he would have said in some waking circumstances C 'better' for telling dreams. However, the Reductive Analysis provides no means of identifying 'the best' circumstances for telling a dream he has had or is having where a person is yet asleep. There could be a range of equally good possible waking circumstances C (circumstances where a person is promptly asked, attentive, enthusiastic, not distracted) each of which would, if realised, determine a different awakening narrative. Only where an actual waking context is presupposed (i.e. where 'dreaming' is used in what Malcolm called its 'primary' sense), can a 'best' account of a person's dreams be determined according to what the dreamer would have said if prompted, co-operative, not distracted, etc. in possible circumstances *identical with or nearest to* his actual manner of awakening.

I draw the distinction between the Reductive Analysis and the Dispositional Analysis at the point where it is implied that a dream may be identified according to what a person would say if awoken at time t without

specifying (e.g. by pointing to his actual awakening circumstances) the manner of awakening with which possible circumstances C are identical or nearest to. I defend the conclusion that a speculative assumption that there is a 'normal' manner of awakening, such that the specific content of dream told is determined by processes occurring during sleep, is implicit in ordinary talk about dreaming, at least in that part of it which distinguishes between dreams according to the time they were dreamt within a period of sleep.

The Dispositional Analysis is thus presented as an elaboration upon the Reductive Analysis. It retains the idea that what a person dreamt is the story as if of events witnessed which he able to tell without invention or inference in certain waking circumstances where he is not remembering anything from waking life. It retains the idea that the story told is not a description of what happened (what seemed to happen, what was imagined, thought, 'represented' or 'experienced') during sleep. But it imports the assumption that the content of a person's waking narrative of a dream is causally determined by processes occurring during sleep prior to awakening. It draws a contrast, which cannot be made by the Reductive Analysis, between telling a dream and artifacts of the process of awakening, between dreams dreamt during sleep and illusions of dreams explained by the contingencies of awakening.

The Reductive Analysis does not allow that a person's narrative might ever be confirmed or disconfirmed according to whether it agrees with observations of sleep. In agreement, the Dispositional Analysis does not introduce any notion that scientific investigations might arrive at an account of what a person dreamt at a certain time which might confirm or disconfirm what he would have said if awoken at that time (and prompted, etc.) The Dispositional Analysis does, however, introduce the notion that questions about the temporal identity of dreams within a period of sleep have an

empirical substance; scientific investigations could in principle confirm or disconfirm speculations about whether a dream told upon awakening was dreamed earlier in the night or immediately prior to awakening. If it were settled that the dream referred to were dreamt at some time earlier in the night, scientific investigations might correct the account given by the dreamer when he actually wakes up at a later time. But the ground for this correction would be nothing other than grounds for a hypothesis about what the dreamer would have said if he had been awoken earlier.

Moreover, the authority of a person's actual awakening account could always be preserved (given that he is attentive, etc.) by stipulating that the dream told might have been dreamt only immediately prior to awakening. For the Dispositional Analysis does not allow that scientific investigations could confirm or disconfirm a person's account of a dream dreamt immediately prior to awakening; investigations could only confirm or disconfirm the additional hypothesis that the disposition to tell that dream was acquired at an earlier moment in sleep.

The Dispositional Analysis does, in departure from the Reductive Analysis, introduce a notion of how scientific investigation could show that our narratives of dreams are erroneous. Scientific investigations might show that we are generally mistaken in assuming that dreams are dreamt during sleep. It might be shown, in some particular cases, that the 'dream' told is an artifact of arousal. An element of the dream is explained by a peculiarity of awakening such as, for example, Maury's 'guillotine' dream discussed by Freud and others or in the 'lost goat' dream reported by Dennett (1976)). Or research, such as that reported by Hall (1981), might confirm Globot's hypothesis that the contents of our awakening narratives are quite generally explained by events occurring as we awakeas attempted to do.

Our everyday identification of the contents of a dream with the story a person tells upon awakening might survive the confirmation of Globot's hypothesis. The 'language game' of telling a dream described by Wittgenstein in the Investigations, need not be taken to imply that dreams are dreamt during sleep and remembered or forgotten upon awakening. This 'core' of the ordinary concept of dreaming might be accounted for by the Reductive Analysis, if we were to regard our conviction that something is remembered as merely the recognition that telling a dream is 'like' remembering events witnessed (except that nothing is remembered!). But by implying an empirical assumption about the causal explanation of our capacity to tell fictitious stories upon awakening without inference or invention, the Dispositional Analysis allows that something *is* remembered, even though it is *nothing like* the ostensible referents of the story told.

5. The Reductive Analysis, that dreams are what one appears to remember upon awakening where one is not remembering anything from waking life, allows that a person's actual judgement about his dreams may sometimes be corrected according to what he would have appeared to remember in some other waking circumstances, C, good for telling dreams.

The identification of the content of a person's dreams with what he appears to remember upon awakening (no matter how bizarre or impossible) where he is not remembering anything from waking life does not imply that the story a person sincerely tells can never be mistaken. It implies only, as Malcolm (1959) insisted, that a description of a dream can never be judged to be correct or mistaken according to its correspondence with some state of affairs logically independent of what the dreamer is sincerely inclined to say. It is possible that the story he sincerely tells may be corrected by reference to what he would

have said in circumstances 'better' for telling a dream, provided that the notion of circumstances good for telling a dream is not explained in terms of 'tracking' some independently identifiable state of affairs.

In everyday practice, we are seldom perturbed by questions about what makes some awakening conditions better for telling a dream than others. Normally preference is given to an account given immediately upon awakening over one given later in the day. But it is readily allowed that a person may add to his original story details he did not at first express and that he may later notice features that initially escaped his attention. Exceptionally a person may even correct his story, but only slightly and where there is some explanation of his earlier words being carelessly expressed, a slip of the tongue or semantic misunderstanding. It is remarkable that people who ordinarily suppose themselves to dream infrequently or not at all turn out to have many and detailed dreams to tell when they adopt the practice of keeping a dream-diary upon awakening or when, as in sleep laboratory experiments, they are regularly woken up and questioned during the night. But our surprise is at the scale of this phenomenon rather than at the suggestion that there are dreams which we are unaware of in the normal course of waking. We readily allow that a person may be distracted from his dreams in some waking circumstances (e.g. busy week-day mornings when he must rush to work) that he would have noticed in other waking circumstances (e.g. a day off when he has no urgent business to attend to).

The Reductive Analysis requires some modification if it is to allow for a distinction between a dream and the content of an actual waking narrative as if of events remembered. Otherwise it cannot account for the possibility of untold dreams, of dreams which are not the content of an actual awakening narrative. What explanation could there be of why a person did not tell a dream he had?

Of course a person may not have occasion or inclination to express himself. He may be reticent or even dishonest in his confessions. He may censor, invent or twist a tale to suit his public image. More interestingly, a person may not tell a dream because he is *unaware* of it, he is unable to express his dream because he has no impression of it.

How could a person be unaware of his dream where, as the Reductive Analysis maintains, the existence and content of a dream is logically dependent upon his awakening impression of it? How might a person be mistaken in his judgement about the occurrence and content of his dream other than by mistaking a memory of waking life for the impression of his dreams? What explanation could there be other than by reason that there was no dream to tell? The Reductive Analysis can allow that a person's account of his dreams may be corrected only by reference to what he would have said in 'better' circumstances, waking circumstances that are of kind C, known a priori to be good for telling dreams. There are facts about dreams which are facts about what a person would have appeared to remember in such-and-such waking circumstances other than circumstances in which he actually awoke.

6. Circumstances C good for telling dreams are analogous to circumstances known from common experience to be generally good for remembering events recently witnessed (i.e. where immediately questioned or otherwise prompted, where trying hard to remember events recent experiences, where not distracted).

In everyday experience, what is good for bringing to mind without invention or inference vivid impressions of past experiences, regardless of whether these things happened, is 'trying to remember' what recently happened. According to the Reductive Analysis, waking circumstances good for telling dreams are those in which a person intentionally tries hard to say without invention or inference

what he recently perceived, thought, imagined, etc. no matter how improbable or impossible.

The proposition that a person will best judge upon his dreams if, within the context of awakening, he confidently tries to remember what happened or seemed to him to be happening during sleep, is not an admission that we do or should believe in the Received Opinion. We are familiar enough with the idea that practical results are often achieved by 'going through the motions' of belief, by playing an 'inner game' of self-deception or by 'suspending disbelief'. These phenomenon are not happily described and are not well-understood, but are commonplace enough for us to allow that a person could 'try hard' to remember recent experiences where his over-reaching purpose is merely to appear to remember events which were not experienced in waking life, without regard to whether these events were experienced during sleep. The 'success' of a person's efforts in attending to his dreams by trying hard to remember recent events, discounting what is remembered from waking life, is not measured by correspondence of its results with observations of sleep. 'Success' may simply be to have gone through the familiar motions of trying to recollect (e.g. saying to oneself "Let me see, what was just going through my mind?", closing one's eyes, screwing up one's face, saying "Shh!" to a distracting question) without regard to independent evidence or even to the intrinsic improbability or impossibility of the events one appears to remember.

7. The analogy between circumstances C good for telling dreams and circumstances known from common experience to be generally good for remembering events recently witnessed is not explained or justified by the Causal Hypothesis that the internal processes producing narratives of dreams are akin to those underlying perceptual memory.

It is tempting to suppose that the analogy evident in what we ordinarily say between what is good for telling a dream and what is good for remembering recent events is explained or justified by our assuming that dreaming is an internal process akin to a process underlying waking perception or imagination and that dreams are remembered or forgotten according to the operation of internal processes (e.g. storage of a memory trace) akin to those mediating between events perceived or imagined and subsequent reports of them. It would follow that distinctions could be drawn among the internal causes of 'telling a dream' between factors which produce frequent *dreams*, factors which increase one's *ability to tell* dreams one has had and factors which merely produce frequent and volumous narratives *as if* of dreams had.

Malcolm recognised that distinctions thus drawn might be applied in the light of scientific investigations to correct or modify our ordinary judgments about what circumstances are good for telling dreams. He argued that such corrections or modifications would amount to a change in our concept of dreaming, not the application of an assumption implicit in everyday language. I agree with Malcolm that what I call the Causal Hypothesis, asserting that narratives of dreams are produced by internal processes akin to those underlying a witness' ability to report events perceived, need not be implied by our ordinary practice of correcting a person's account of a dream according to what he would have said in circumstances known from common experience to be generally good for remembering events witnessed. That such circumstances are good for telling dreams is known a priori and is not explained by any independent evidence that, in these circumstances, waking narratives correspond to dreams. The fact that the analogy holds with circumstances commonly known to be generally good for remembering recent events does not

dictate that the analogy extend to unfamiliar circumstances such as the internal processes we suppose to explain perceptual memory.

Suppose that in some future time, a pharmaceutical company advertises a drug 'Dreamex' which, taken as a nightcap, produces frequent and voluminous impressions of recent adventures upon awakening. The drug is widely prescribed by Psychoanalysts. The Dreamex company makes a killing. The Reductive Analysis does not prejudice what we should say of 'dreams' told by someone taking Dreamex which he would not otherwise have told. It does not dictate whether person's narratives should be corrected according to what he would have said if he had or hadn't been taking Dreamex. It does not distinguish the implications between saying that this drug improves a person's ability to tell dreams he has had, or produces more dreams during sleep, or produces 'illusions of dreams' upon awakening.

The Dreamex company's rivals are envious of its success. They suspect that the company has been selling drugs patented by them under a different label. The Dreamex company stands accused of fraudulently claiming variously that "Dreamex makes you dream more dreams", that "Dreamex helps you remember your dreams", and that "Dreamex is the perfect alternative for people who do not dream but can afford an Analyst". The Trading Standards Board discovers that the product marketed as 'Dreamex' is not consistent in its contents. Sometimes the little brown capsules contain a drug otherwise known as 'Memorex', other times they contain 'Hallucinex' or, when that is in short supply, they contain a third product 'Nostalgex'. Each of these three drugs has the common effect, taken as a nightcap, of regularly producing vivid impressions of recent adventures when one awakens. But when taken during the day each of these drugs has a distinctive effect. Memorex improves one's

memory of recent episodes, Hallucinex produces vivid images of current adventures and Nostalgex produces vivid illusions of experiences recently past.

Should we say that Memorex improves one's ability to tell dreams one has had, Hallucinex produces more dreams and Nostalgex produces awakening illusions of having dreamt? Could the Dreamex company justify its advertisement claims by combining all three drugs in their capsules, just to make sure you are either more aware of your dreams, have more dreams to tell or, failing which, still have a story to tell your Analyst? The analogy between circumstances C good for telling a dream and circumstances known from common experience to be generally good for remembering events witnessed does not determine any answers to these questions. The discovery that Dreamex is variously either Memorex, Hallucinex or Nostalgex might suggest a convenient use for a distinction between 'remembering' more dreams, 'dreaming' more dreams and 'having illusions of remembering dream'. But these distinctions make explicit nothing in our ordinary concept of dreaming. They simply find an expedient vocabulary for distinguishing hypotheses about the causal production of frequent and voluminous awakening narratives of the kind we ordinarily identify as narratives of dreams.

According to Malcolm, it could not be discovered that we are widely mistaken about our everyday competence in telling dreams. If it were discovered that the brain processes which produce narratives of dreams are dissimilar to the waking brain processes conducive to remembering what one recently saw and did (that, for example, they are akin to the processes activated by Nostalgex) it would not be shown that the usual circumstances of telling a dream are defective. It might be found that taking Memorex effects a change in the usual production of awakening narratives, producing them according to processes which are normally good for remembering events recently

witnessed in waking life. But it need not follow that our everyday narratives of dreams, where we are sincere, attentive, etc. should be corrected by reference to what we would have said if we had been taking Memorex.

It might be suggested that we ordinarily assume that everyday narratives of dreams are usually competent *because* we assume that the everyday circumstances of awakening which produce narratives of dreams are akin to those which would produce memories of events recently witnessed had we been recently awake and open-eyed. The Causal Hypothesis about the internal generation of telling a dream is both plausible and widely believed. But it does not follow that such an assumption *explains* our usual acceptance of a person's awaking narrative as a true description of his dreams. Rather, the analogy between what is good for telling a dream and what is good for remembering events recently witnessed only describes our practice of sometimes distinguishing between what a person is able to say when actually awoken and what he might have been able to say at the time if, for example, he had not been distracted. There is no reason to suppose that the limited analogy evident in the ordinary context of telling a dream represents a rule which binds us to correct our narratives of dreams in ways unforeseen in that context.

In the *Investigations* [p.184], Wittgenstein raised the question whether it follows from the fact that an individual has an especially poor memory for recent events that his narratives of dreams should be treated with suspicion. I take Wittgenstein's point to have been, not that this question cannot be given a sensible answer, but that our ordinary talk about dreams does not disclose a rule or principle (e.g. "whatever is good for remembering events is good for remembering dreams") which dictates an answer. Ordinary talk may, by and large, bear out an analogy between what is commonly known to be good for

remembering events witnessed, but the extent to which such an analogy should be applied is not pre-determined by what we ordinarily do or say.

8. Which among the possible judgements a person might give 'if awoken in circumstances of kind C' is uniquely 'the best' account of his dreams cannot be decided by analogy with remembering recent events, for we have no analogous conception of how the facts may be judged independently of what a person appears to remember .

It is not stipulated in advance that scientific discoveries about what is good for remembering recent events establish necessarily what is good for remembering dreams. But neither is it an empirical question whether internal processes good for remembering events witnessed are, as a matter of fact, good for telling dreams. That a person's account of his dreams may sometimes be corrected by reference to what he would have said in circumstances C commonly known to be generally good for remembering recently witnessed events (e.g. being immediately questioned or otherwise prompted, trying hard to remember recent experiences, not being distracted) is known a priori. It was not established by common observation of correspondence between our awakening narratives and other evidence about our dreams; and it is not confirmed or disconfirmed by scientific investigations. By contrast it is an empirical question what exact conditions are good for bringing about a correspondence between a witnesses' report and the events he saw.

Should the analogy between what is generally good for remembering recent events and what is good for telling a dream extend to take account of scientific discoveries about what is good for remembering events? It is a mistake, as I see it, to suppose that this is an empirical question which might survive the discovery that the Received Opinion is false. The reason is not located by

Malcolm's (1959) argument that we have no conception of what evidence could confirm or disconfirm a person's narrative of perceptions, thoughts, images, etc. enjoyed whilst asleep. Malcolm came closer to the mark in his conclusion (whatever his reasons for it) that it is a peculiarity of dreams that observations of sleep cannot outstrip a dreamer's best waking judgement. But the error I have in mind is one that could survive the conclusion that dreams cannot transcend a subject's best waking judgements. It is to suppose that we have some conception of how a person's 'best' narrative of a dream might be judged to correspond to something which *explains* why it is it is his best judgment.

The relevant notion of 'good' circumstances for telling a dream is importantly disanalogous to the notion of 'good' circumstances for remembering events witnessed. What is 'good' for telling a dream cannot be explained by reference to the nature of something ('the dream') occurring during sleep to which a person's awakening narrative may be judged to correspond with more or less accuracy. A person's actual account of a dream (or failure to narrative a dream) may be criticised by the observation that his waking circumstances were in some respects defective (e.g. he was late for work when he awoke and took no time to reflect upon his dreams). But a set of strictures according to which a person's judgment about his dreams may be faulted is very different from a recipe for finding out what a person dreamt independently of an actual waking context within which those strictures may be applied.

According to the Reductive Analysis, it is not an empirical hypothesis that circumstances C are good for telling dreams. It is not assumed that in such circumstances a person's apparent memory is a reliable indicator of the existence and character of something (the dream) which some possible investigation could confirm or disconfirm. By contrast, it is an empirical matter

what circumstances are good for remembering recent events. Most of our knowledge of what circumstances are generally good for remembering recent events (e.g. where a person is prompted to say what seemed to him to have happened, where he is co-operative, conscientious, undistracted, sincere, eloquent) comes from everyday experience, tried and tested from generation to generation. It is possible, however, that science will discover with much greater precision what exactly produces a correspondence between what one appears to remember and what happened. It might be supposed that Memorex (one of the various products marketed under the 'Dreamex' label) was originally designed, in light of discoveries about the neuro-chemistry of individuals with extraordinarily good memory, to produce impressions of recent events which corresponded with great regularity to what a person recently perceived or seemed to perceive.

We could choose to apply this knowledge to stipulate with greater specificity ('precision' would be a misleading word here) what analogous waking circumstances are good for telling dreams. We might allow that a person's 'normal' waking narrative of a dream could be corrected according to what he would have said if he had taken Memorex. The Reductive Analysis need not prohibit an extension of the analogy between what is good for telling dreams and what is good for remembering recent events. But the extension of the analogy would not be forced upon us by scientific discoveries about the correspondence of a person's waking judgement to his dreams. For, in the case of telling a dream, we have no conception of evidence according to which it might be judged that one apparent memory is better than any other, independently of the awakening circumstances which produce it, in virtue of its agreement with the testimony or records of other observers.

The analogy between what is good for telling dreams and what is generally good for reporting events recently witnessed cannot furnish a useful notion of which among possible apparent memories (p or q or r) a person may have in circumstances C known from ordinary experience to be generally good for remembering recent events (e.g. where prompted, where 'trying hard' to remember episodes no matter how fantastic, where not distracted, etc.) is the best because it corresponds to the particular dream (p rather than q or r) that he had.

9. The Reductive Analysis cannot explain how a person's narrative might be corrected by reference to what he would have said if awoken at some time earlier than he was actually awoken.

We readily allow that a person awoken at 4 am may fail to tell a dream p he would have told if awoken at 2 am and that if awoken at 8 am he may have a different dream q to tell. Among the conditions we commonly take to be good for telling a dream p, is that a person should be awoken 'immediately after' dreaming p. This would seem to be an unexceptional elaboration of the assumption that a person's best judgment about his dreams is that given where he is immediately questioned or otherwise prompted upon awakening. But the Reductive Analysis is unable to admit that a person's account of a dream may be corrected according to what he would have appeared to remember if awoken at some other time. According to the Reductive Analysis, what a person would have appeared to remember if awoken at some other time would, if it differed markedly in its ostensible content, necessarily be a different dream. The Reductive Analysis does not provide for the identification of dreams according to the time they were dreamt *within* a period of sleep; dreams dreamt within

the same period of sleep are distinguishable only by their narrative content being of different and unconnected adventures.

The Dispositional Analysis allows that a person awaking at 8am may or may not be able to tell a dream dreamt at 4am. What a person dreamt at 4am is what he would have said if awoken at 4am in circumstances C good for telling dreams (i.e. if prompted, cooperative, sincere, undistracted, etc.). It does not allow that a person's narrative in circumstances C of a dream 'interrupted' by his awakening could be mistaken. Should the narrative a person gives at 8am depart radically from what he would have said if awoken at 4am, it does not mean that the 8am narrative is mistaken. It means only that he has forgotten the 4am dream and is telling, presumably correctly, another dream subsequently dreamt.

The Dispositional Analysis, unlike the Reductive Analysis, counts as significant what a person would have said if awoken at 4am rather than at 8am. It thereby gives sense to assertions about what a person is currently dreaming prior to his awakening; what a person is dreaming at any given time is settled according to what, if any, story he would tell if immediately awoken (and prompted, etc.). In order to thus identify a dream according to the time it was dreamt within a period of sleep, prior to an actual awakening, the Dispositional Analysis must import certain assumptions about the 'normal' process of awakening. A departure is marked, at this point, from the Reductive Analysis which admits no empirically testable assumptions about what happens during sleep.

10. According to the Reductive Analyses, sentences of the form 'X is dreaming p' have no definite meaning for we have no conception of 'the best' possible

judgement about what X dreamt except in the context where a person has actually awoken or is in the process of awakening.

The requirement that the circumstances in which a person judges what he dreamt to be of a kind C analogous to circumstances commonly known to be generally good for remembering events recently witnessed is not sufficient to determine a unique judgment about his dreams. There may be many possible variations within the conditions of waking which are causally relevant to the production of an apparent memory which do not infringe this requirement.

It is possible that, given the same prior conditions during sleep, variations in the process of awakening may have a significant effect upon what a person would appear to remember 'if awoken'. Waking is, after all, a process which can be realised in many different ways, the details of which are largely unknown to us. Associations between stimulus occurring during sleep and waking narratives are generally supposed to locate the causal explanation of the content of a person's narrative in sleep. But it could turn out that the manner in which a person is awoken (e.g. water sprayed on his face, alarm bells, vigorous shaking) sometimes corresponds to what a person appears to remember. Such discoveries would suggest that significant elements of the 'dream' a person tells are not determined during sleep and depend upon the contingencies of awakening. It is possible that what happens during sleep does not generally determine a specific set of experiences (rather than a disjunction of alternative possible sets of experiences) that a person will appear to remember 'if awoken in circumstances C'. Unknown details of superficially 'ordinary' awakenings may produce apparent memories of entirely different adventures. In which case it may be reasonably questioned whether there is any possible judgment about a dream which is uniquely 'the best'.

Malcolm drew a distinction between the primary and secondary uses of the verb 'to dream' in ordinary practice. He pointed out that our basic use of statements of the form 'X dreamt p' presupposes the circumstances of an actual awakening. This presupposition ensures a contextual or demonstrative specification of the exact manner of awakening in which dream p and none other would be told (if prompted, co-operative, undistracted, etc.). In cases of the primary use of 'X dreamt p', dreams are uniquely identified by the dreamer and the time at which he was awoken whilst allowing that a person's actual awakening impression may be corrected by reference to what he would appear to remember in circumstances C (if he'd been prompted, tried hard to remember recent experiences and not been distracted). For it may be stipulated that 'the best' account of a dream is that which the dreamer would give in circumstances C *identical with or nearest to* his actual manner and conditions of awakening. This stipulation closes the indeterminacy about what he would appear to remember according to unspecified contingencies about the process of awakening left open by the bare requirement that waking conditions good for telling a dream be of kind C analogous to those commonly known to be generally good for remembering events recently witnessed.

The attempt to close the indeterminacy about what a dreamer would appear to remember according to unspecified contingencies of awakening by stipulating that his best impression of a dream is that which he would have in circumstances C identical with or nearest to his actual manner of awakening, fails to uniquely identify a dream according to the dreamer and time dreamt, except in the context where a person has already awoken or is in the process of awakening. The Reductive Analysis implies, as I take Malcolm to have meant, that 'X dreamt p' has no definite truth-value except where the details of an actual waking are presupposed. It implies that secondary uses of the verb 'to

dream' fail to refer to the content of an apparent memory; thus, for example, where one delights in the supposition that Lover Boy sobbing through his snores is dreaming of the sweet-heart who yesterday dumped him, one's supposition has no definite meaning. It allows that a person may equally well be said, at a time prior to awakening, to be simultaneously dreaming unrelated adventures p, q and r, the dream he eventually tells depending upon the manner of awakening. The attempt to say further which particular dream is being dreamt fails to say anything about what is going on in sleep. At best it may succeed in predicting the manner in which the dreamer will be awoken.

The attempt to explain statements about the occurrence of dreams at some time prior to awakening as a hypotheses about what a person would appear to remember if awoken at that time but not before *in the manner in which he was later actually* awoken fails to counter examples generated by the possibility of dreams explained by the process of awakening rather than by events occurring during sleep. For example, it is possible that a person be more or less born with a chronic disposition to appear to remember p if awoken in a peculiar manner W, where W explains the production of apparent memory p *whatever the prior conditions in sleep*. Were a person to actually awake in manner W it would follow, according to proposition that a dream is dreamt at the time a person acquires during sleep a disposition to tell that dream if awoken 'in the manner in which he was actually awoken', that he dreamt p the instant he first fell asleep and perhaps that he redreamt the same dream everytime he fell asleep since then.

The Dispositional Analysis departs from the Reductive Analysis precisely in that it imports into our talk about dreams occurring during sleep the assumption that there is a 'normal' manner of awakening such that what a person would say 'if awoken' (and prompted, etc.) could, in principle, be from

events occurring during sleep predicted without specifying that a peculiar manner of awakening is necessary to produce that narrative rather than another. It is on this assumption that we identify a person's dream according to the time he dreamt it.

11. According to the Reductive Analysis, a person's dream and his best waking judgment are not merely conceptually interdependent; there is a sense in which his best waking judgement is logically prior to or determines what he dreamt.

What makes some circumstances of telling a dream better than others is not explained by reference to the existence or nature of something ('the dream') to which a person's narrative more or less corresponds. Trivially, one might say that the best judgement is that which corresponds to his dream. But this gives no explanation of why one judgement corresponds to a dream better than another. The statement "X told dream p because he dreamt dream p" is misleading in its suggestion that dreams explain what makes a person's actual waking narrative better or worse than another he would have given (if . . .). One might just as well say "X dreamt dream p because he told dream p"!

The proposition that the mutual entailment between dreams and awakening narratives is not properly regarded as a matter of a natural law, may seem to take away any point from saying either that we dream because we tell dreams or that we tell dreams because we dream. Talk of dream narratives 'determining' dreams would seem to mistakenly suppose that where dreams do not cause awakening impressions, and the relationship is not accidental, then awakening impressions must, in some peculiar sense, 'cause' dreams, albeit a case of backward causation. Talk of telling a dream being 'prior' to dreaming would seem to erroneously perpetuate the myth of the empirically given, insisting that the historical priority of public observables over inferred

entities accords a privileged epistemological status to narratives of dreams. However, recognition that the mutual entailment between dreams and awakening impression is not conditional upon any theoretical assumptions, does afford an unobjectionable sense to the slogan "we dream because we tell dreams". It illuminates a kind of priority that is neither causal nor epistemological.

According to the Reductive Analysis, the mutual entailment between dreams and awakening narrative only holds within the context of an actual awakening, and a person's actual waking narrative has a certain logical priority in deciding what he dreamt. The priority of a person's actual waking impression is that of a presupposition necessary to fix the identity of *the* dream dreamt by X at time t. It is quite different from the alleged epistemological priority that observables have in our inferences to theoretical entities, or the causal priority that inferred entities have over observable symptoms.

Perhaps it is a short-coming of the Dispositional Analysis that this notion of priority is lost to the bare notion of mutual entailment or conceptual interdependence conditional upon the assumption that there is a 'normal' manner of awakening. However, the price of maintaining that our judgments have a priority arising from the context of the 'primary' use of the verb to dream is to regard our commonplace conviction that dreams are dreamt during sleep as signifying merely that upon awakening a person is able to tell a story (if prompted, etc.) which he was not able to do before he fell asleep. By defining the verb 'to dream' within a context of awakening, the Reductive Analysis is unable to distinguish dreams according to the time they were dreamt within the preceding period of sleep, and cannot gives any substance to the hypothesis that the 'dreams' we tell are not dreamt during sleep.

12. The Dispositional Analysis draws an empirically testable contrast between our conviction that dreams are dreamt (or 'occur') during sleep and the contradictory hypothesis that dreams are 'not dreamt' or are 'dreamt whilst waking up'.

The Dispositional Analysis, unlike the Reductive Analysis, does not make it a sufficient condition of telling a dream that a person have an apparent memory which is not a memory of waking life. It excludes from its definition of dreams the content of some apparent waking memories which the Reductive Analysis would admit. This is because the Reductive Analysis does not require that those among our apparent memories which are dreams have a causal explanation 'locating' them in sleep rather than during awakening or at no particular time at all. According to Malcolm, to say that we 'dream during sleep', is merely to say that a person be able to tell upon awakening a fictitious story as if of events witnessed which he was not able to do before he fell asleep. By contrast, the Dispositional Analysis explains the requirement that dreams are dreamt during sleep in terms of the hypothesis that 'telling a dream' is the exercise of a disposition acquired by internal processes operating during sleep prior to the initiation of awakening. Thus the Dispositional Analysis gives us an empirically testable notion of what it is for a dream to 'occur' during sleep (rather than sometime else or at no particular time). The hypothesis that a 'dream' was not dreamt or was 'dreamt' during the process of awakening is, according to the Dispositional Analysis, a testable contradiction of the assumption implicit in ordinary talk that dreams are dreamt during sleep.

Malcolm denied that the belief that dreams occur 'in physical time' (as he puts it) is implied by our everyday practice of telling dreams. He argued that we have no ordinary use for statements about events dreamt 'at the same time' as events witnessed and that the attempt to provide for such a use (e.g. by

stipulating that dreamt events occur at the same time as the observable causes of narratives of dreams) cannot be reconciled with the exclusive authority we grant to a person's description of his dreams. Instead he offered a reductive analysis of the commonplace manner of speaking of dreams as 'occurring during sleep':

> "The locution that dreams occur 'in' sleep is used in this way: people declare on awakening that various incidents *took* place (past tense) which did not take place. We then say that these incidents were *dreamt* (past tense). This is merely how we label the above facts, which imply nothing about the occurrence of dreams in physical time." [p.77].

Ordinary talk which appears to imply more than is allowed on this account is to be explained away as a merely metaphorical idiom of speech. Malcolm did not deny that we entertain a picture of dreaming on analogy with a series of conscious episodes like thoughts, images and sensations. But he denied that this picture is more than a deeply attractive, sometimes convenient sometimes misleading, metaphor. It is misleading to call this picture a 'theory' because we do not ordinarily employ it in the manner that models and analogies are employed by empirical scientists.

In reply to Malcolm, Putnam suggested that some aspects of our ordinary talk about dreams would appear odd to people who believe that 'telling a dream' is an artifact of awakening whereas it does not appear at all odd to us. He took this to show that our ordinary talk implies that dreaming is a series of episodes occurring at clockable times within a period of sleep:

> "Suppose a novelist is writing about two young lovers, separated by six thousand miles (which means eight hours time difference) and writes, 'At the very moment that R.A. was having her photograph taken, her distant lover was having a dream in which she figured . . .' . . . in a culture which accepted the

> idea that 'memories of dreams' are caused by events that happen upon waking up, this sentence might not 'have a use'. So in this sense, our total 'way of talking' is *not* independent of what 'assumptions' we make, of what we know" [Putnam 1962a p.318].

In giving an account of the locution 'dreams occur during sleep', Malcolm was caught in a dilemma. On the one hand, some account of a temporal distinction between dreaming and telling a dream is required if his analysis is to have any plausibility as an uncritical description of the ordinary concept. On the other, even the meanest allowance for location of dreams during sleep threatens to let in the germ of the Received Opinion.

Malcolm recognised that the distinction we draw between dream and awakening impression is a distinction between past and present events:

> "If we abandon the assumption that the criterion and the something of which it is the criterion must be identical, then why cannot a present occurrence be the criterion of a past occurrence?"

To abandon the attempt to account for temporal distinction would be to give up any pretence to be uncritically describing, however parsimoniously, our ordinary concept of dreaming. However, as Pears (1960) observed, it is doubtful that Malcolm can maintain that dreaming has even the vaguest temporal location without thereby allowing that dreaming is 'some kind of mental process or state' which has causes and effects in relation to sensory stimulation, behaviour and other mental phenomenon, and that its temporal location may be more exactly identified given a better knowledge of those causal interrelations. What Malcolm is unwillingly driven to say is that not only is Putnam's description of events dreamt 'at the same time' as events perceived to be regarded as merely metaphorical but also the commonplace locution 'dreams occur during sleep' is, strictly speaking, false. If our talk of the dreaming of

dreams as something preceding the telling of dreams is merely a convenient way of 'labelling' what a person can do upon awakening which he could not do before he fell asleep, it would seem to follow that the distinction we draw between dreaming and telling a dream is no real distinction at all.

Putnam (1962a) did not distinguish between the assumption that dreaming is a process occurring during sleep and the Received Opinion that dreaming is a process akin to perceiving, imagining, thinking. The Dispositional Analysis, as I defend it, attempts to map out a space between Malcolm's denial that dreaming is a process occurring during sleep and the hypothesis that dreaming is a process akin to waking perception or imagination. Dreaming is a process occurring during sleep. It is the acquisition of a determinate disposition to tell a story if awoken. That process is not 'like' perception or imagination in its association with dispositions to respond to a sensible environment. It need not be similar in its physiology or neurophysiology. To have a temporal location in sleep, dreaming need not even have a temporal structure (an order or pace of acquisition of the disposition to tell a dream) similar to waking perception or imagination.

The Dispositional Analysis distinguishes between the time and place at which the events within a dream occur (e.g. ancient Egypt in the reign of Ramases II) which is decided exclusively according to the dreamer's awakening narrative and the time and place at which the dream is dreamt (e.g. at 2 am on the sofa). The time at which a dream occurs or is dreamt within sleep is defined as the instant at which a person acquires the disposition to tell that dream if immediately awoken in a normal manner (such that peculiarities of the manner of awakening do not explain his apparent memory) and in circumstances C. The Dispositional Analysis shows how dreaming can be given a location within sleep testable by scientific investigations without allowing

that scientific investigations could confirm or contradict the dreamer's best waking account of the location of the events within the dream dreamt at that time.

The Dispositional Analysis allows that our commonplace conviction that dreams are dreamt during sleep is open to empirical confirmation or disconfirmation. Globot's Hypothesis (and variations upon it such as Dennett's (1976) Cassette Theory which revives Freud's idea that events initiating awakening 'trigger' a phantasy previously created during waking life without that phantasy being 'gone through' in the instant prior to awakening) are significant rivals to the theory of dreaming implicit in ordinary language. I understand Globot's Hypothesis that "a dream is an awakening that is just beginning" to assert that the internal causes of telling a dream are typically events which initiate or are integral to the process of awakening. Strictly speaking neither the Reductive nor the Dispositional Analysis allows that *dreams* could be *dreamt* during the awakening process. Strictly speaking the hypothesis that there is no 'normal' process of awakening implies that we *do not dream*. But Globot's Hypothesis may usefully be expressed as the hypothesis that dreams are 'dreamt' during awakening. A dream p would be 'dreamt' during awakening were the process of awakening to have a significant role in explaining the content of a person's apparent memory of events p which is not a memory of waking life. This discovery would show that 'dreaming' as we understand it is not a good theoretical term for, without specifying the particular manner of awakening envisaged, we would be unable, in principle, to predict from events occurring during sleep what a person would appear to remember 'if awoken'.

14. The Dispositional Analysis distinguishes between (a) the assumption that the dreams we tell are causally explained by events occurring during sleep prior to awakening and (b) the Causal Hypothesis that the brain processes which explain the dreams we tell are analogous to the brain processes which explain waking perception.

The Dispositional Analysis allows that the assumption that a dream may be identified by the time it was dreamt and that all dreams are dreamt during sleep is deeply entrenched in ordinary thought about dreaming, but draws back from attributing such a fundamental role to the analogy between the mechanisms by which we acquire our dispositions to tell dreams during sleep and the mechanism underlying waking perception. In particular, the Dispositional Analysis distinguishes between the statement that dreams are dreamt or occur during sleep and the hypothesis that dreams are dreamt with an order and duration analogous to waking experience.

I agree with Putnam (1962a) that, were science to confirm Globot's Hypothesis, our talk of the events of a dream 'occurring during sleep' could survive only as a 'dead theory' or fictional manner of speech. But I depart from Putnam in distinguishing between the assumption that dreams are causally explained by events occurring prior to waking and the Causal Hypothesis that our dispositions to tell a dream if awoken in a normal manner (where prompted to try to remember recent experiences without distraction) are acquired and retained or lost in a manner analogous to that in which a witness acquires, retains or loses a disposition to say what he seemed to perceive or tried to do (where prompted to try to remember recent experiences without distraction). The effect of this is to marginalise examples of ordinary talk, like that offered by Putnam, which seem to imply the Causal Hypothesis. Occasional talk of the events of a dreamer's dream unfolding in parallel with the waking

experiences of another, articulates a hypothesis additional to our everyday talk of dreams occurring during sleep.

There is, however, a very close connection between scientific faith in the Causal Hypothesis and my argument that the Dispositional Analysis gives a better account of the ordinary concept than the Reductive Analysis. The preference I give to the Dispositional Analysis is that it affords empirical substance to our commonplace conviction that dreams are dreamt during sleep and remembered or forgotten upon awakening. However, the only project of empirical research in view which seems capable of charting the acquisition, loss and retention of a disposition to tell a particular dream remains the psycho-physiological project centred around the Causal Hypothesis, the analogy between dreaming and the internal processes underlying waking perception or imagination. Strictly speaking, the Dispositional Hypothesis (i.e. the hypothesis that 'telling a dream' is the exercise of a disposition aquired during sleep) does not imply the Causal Hypothesis (i.e. the hypothesis that 'telling a dream' is explained by physiological processes akin to those underlying waking perception). But the reason for importing the Dispositional Hypothesis into ordinary talk of dreaming is that it is presupposed by scientific research dedicated to the Causal Hypothesis. The fact that working scientists assume the Causal Hypothesis is reason to infer that we ordinary armchair folk assume the Dispositional Hypothesis!

According to the Dispositional Analysis, our conviction that dreams are dreamt during sleep and remembered or forgotten upon awakening is central to psycho-physiological sleep research. Firstly, it stands in contradiction to Globot's Hypothesis that our apparent memories upon awakening are often (or even generally) explained by the peculiarities of the process of awakening. Globot's Hypothesis challenges the assumption that dreams are dreamt or occur

during sleep, that a dream may be uniquely identified by the dreamer and time at which it was dreamt, such that a theory of dreaming could, in principle, licence inferences from observation of sleep to the content of a person's dispositions to an apparent memory without specifying a peculiar mode of awakening. Secondly, the Dispositional Hypothesis is central to psycho-physiological research in that it is presupposed by the Causal Hypothesis (i.e. by the analogy between, on the one hand, the brain processes underlying the acquisition, retention and loss of a witness' capacity to say what he recently saw and did or seemed to see and tried to do and, on the other, the brain processes underlying the acquisition, retention and loss of a dreamer's disposition to tell a dream) around which psycho-physiological research is organised.

Confirmation of the Causal Hypothesis would show that the apparitions of memory we call 'telling dreams' are generally the exercise of a capacity acquired during sleep and not lost. But the Causal Hypothesis is not equivalent to the Dispositional Hypothesis for confirmation of the Causal Hypothesis would show not merely that our awakening capacity to tell a dream is acquired during sleep and not lost but, in addition, that our capacity to tell a dream is acquired or 'built up' with an order and pace analogous to waking experience. The belief that the events of a dream are dreamt at a pace and in an order analogous to waking experience, whilst commonplace, is not essential to our conviction that dreams are dreamt during sleep and remembered or forgotten upon awakening. It is possible that the Causal Hypothesis may be false (suppose it were discovered that dreams are dreamt 'in a flash') yet our conviction that dreams are dreamt during sleep and remembered or forgotten upon awakening be true.

Putnam (1975) argued that the implications of what we ordinarily say are determined in part by the activities of 'specialists' within our linguistic community. It is possible that nothing we ordinarily do shows that we identify a dream according to the time a disposition to tell a particular story if awoken is acquired during sleep. Yet the efforts made by scientists towards a theory enabling them to predict from observations of sleep what a person would say if awoken can 'give a use' to what we ordinarily say. The kind of division of linguistic labour I have in mind allows that what scientists do is relevant to decide what is implied by ordinary speech yet restricts those implications to the bare minimum required to give a practical use to the expressions of ordinary language. The fact that scientific research is centred round the Causal Hypothesis is insufficient reason to conclude that the Causal Hypothesis is implied by our commonplace conviction that dreams are dreamt during sleep. The relevence of scientific investigations is granted by the conclusion that ordinary talk implies merely the Dispositional Hypothesis.

15. The conclusion that 'having a dream' is the acquisition of an ability to 'tell a dream', combines the notion that telling a dream is not the exercise of an ability to report conscious episodes with an alternative 'explanation' of the unique authority we grant to a person's narrative of his dreams.

In Chapter Two, it was argued that the introspective model of thought and imagination, even if it were valid, could not account for a person's knowing the kinds of facts in which a dream ostensibly consists. In telling a dream we do not merely appear to remember images, sensations, thoughts and other 'items of consciousness'; we appear to remember facts about the dream which have no grounding in such conscious tokens, even supposing they were perfectly remembered. Consideration of Boardman's (1978) analogy between dreams and

dramas suggested that our knowledge of dreams would have to be more like a dramatist's knowledge of his own representational intentions than like an audience's interpretation of the images and voices of a stage-presentation; the glaring difference remaining, of course, that we have no reason to suppose that we busy ourselves during sleep creating fabulous dramas. Malcolm (1959) explicitly likened telling a dream to making up a story in respect of the authority we grant to a person's non-inferential, non-observational knowledge of the content of his dreams.

Hunter (1976) offered the model of a 'raconteur' as a corrective to assimilation of telling a dream to recalling thoughts and images: an author of a story might scribble and draw the thoughts and images which accompany his composition of a story; but his subsequent ability to say what story is thus illustrated is quite different from that of a critic trying to interpret the images and words. Hunter suggested that 'having a dream' is the acquisition of an ability, the successful exercise of which is achieved by telling without inference, observation or invention a fictitious story *as if* of events witnessed and deeds done:

> "Having an ability is not an experience. I can play chess, explain the ontological argument, recite various passages from *Hamlet*, and so on. I have these abilities day in, day out, sleeping and waking. I can experience my playing chess, but not my ability to play; and similarly I do not experience the ability to make an interesting suggestion, when suddenly a thought occurs to me. I know what my suggestion is, but not by introspection. To say that I know what it is is just to say that I can go right from having the thought to expressing it" [p.131].

Hunter is here clearly influenced by Wittgenstein's argument in the Investigations that understanding and meaning are better regarded as abilities

than as 'mental states'. It is, perhaps, more difficult to regard dreaming as acquiring an ability than it is to see intending or understanding in this way. But once regarded in that way, it is relatively easy to see how a person's narrative of a dream is admitted to be authoritative about the ability he possesses. For whereas the abilities relevant to ascriptions of intention only partly consist in the ability to *express* one's intentions, the ability relevant to ascriptions of dreaming is exhausted by one's capacity to 'tell a dream'.

Wright (1984) argued that the lesson to be learned from Kripke's presentation of Wittgenstein's argument against a private language is that our knowledge of our own past intentions, what I meant by *this* mental token, cannot be reduced to any amount of knowledge of items in consciousness or knowledge of behavioural dispositions. Wright (1985) drew a contrast between 'detectivist' and 'constitutive' conceptions of non-inferential self-knowledge:

> " . . . we require a different explanation, dissociated from introspection. So far as I can see, there is only one possible broad direction for such an explanation to take. The authority which our self-ascriptions of meaning, intention and decision assume is not based on any kind of cognitive advantage, expertise or achievement. Rather it is, as it were, a *concession* unofficially granted to anyone whom one takes seriously as a rational subject. It is, so to speak, the subject's right to declare what he intends, what he intended, and what satisfies his intentions; and his possession of this right consists in the conferral upon such declarations, other things being equal, of a *constitutive* rather than a descriptive role." [p.18?]

The notion of 'default-correctness' is crucial to Wright's account of a person's knowledge of his own intentions. This notion is meant to afford an answer to a perplexing question arising from the conjunction of the thought that having an intention is acquiring a range of abilities (rather than having thoughts and

images passing before one's mind) with the idea that a person can authoritatively say what his intentions were. How is a person sometimes able to say with complete confidence what abilities he possesses, what capacities and dispositions he has acquired?

The answer is, roughly, that what a person says (when prompted, co-operative, not distracted, etc.) is part of the profile of behaviour which attributions of intention and belief serve to rationalise. What a person does (e.g. handing you the money) is often constitutive of an answer to a question about his intentions (e.g. were his intentions in borrowing the money honest?). Sometimes, what he is inclined to say about his own intentions determines an answer to the question about what he intends in this same manner. The answer to the question "who did you intend by that charicature?" is given by what a person is inclined to say without inference or invention, not as an exercise of a cognitive ability, but as the exercise of *that intention*. In some contexts, the context in which a person's avowal is conceded 'default correctness', what we are primarily interested in are aspects of a person's intentions which are best shown in his verbal dispositions to say what appears to him to have been his intentions.

There is a certain tension between the idea (1) that the introspective model is inappropriate for some mental concept M because the application of that concept is better regarded as the attribution of a disposition than as the detection of an 'inner' event, action, process or state and the idea (2) that a person has a non-inferential, non-observational knowledge of the application of that concept to himself which transcends what can be known on the basis of his actions and dispositions to act (other than what he is inclined to say on the matter). The problem which seems to Wright most pressing in the case of intention, is to meet a question which arises from the recognition that intending

is an ability: *how can* a person possibly have the sort of authority about his own intentions we commonly grant him? The problem which, it seems to me, is more pressing in the case of dreaming arises from the recognition that, as Malcolm urged, the authority we grant to a person's narrative about the content of his dreams is unique. That authority is unconstrained by whether the ostensible contents of the narrative are physical events, behaviour or mental episodes, it is unconstrained by any presumption that the mental episodes of the narrative 'square with' his past behaviour, or that the mental episodes of the dream can be identified in a context of perception and action, or that the mental episodes of a dream have consequences in waking life apart from 'telling a dream'. The problem which seems more pressing in the case of telling a dream is to meet the question, *how could* dreaming be merely acquisition of a verbal ability?

The (W)right answer to the Wright question seems to be that, in some ordinary contexts (the realisation of which is contingent and sometimes open to reasonable doubt) a person can have non-inferential, non-observational authority about his intentions because the dispositions which constitute the intentions in question are precisely those verbal responses which misleadingly look as if a person were reporting 'inner' events and activities. The answer to the question about dreaming is that dreaming must be the acquisition of an ability because, in all contexts where the concept is applied, there is *nothing other than* the ability to tell without observation, inference or invention a story (where prompted, etc.). These answers commonly urge that a person has knowledge of his own mind which is neither observational nor inferential because the facts he appears to know cannot be established by anything other than what he is inclined to say without invention upon the matter. The trick is to see, on the one hand, that questions about intention (not just about sensations,

images, thoughts, dreams) *sometimes* arise in a context where what a person is inclined to say constitutes the answer and to see, on the other, that questions about dreaming (uniquely) *always* arise in a context where what a person is inclined to say constitutes the answer.

16. The notion that a person's narrative of a dream always and a person's avowal of intention sometimes constitutes the content of his mind calls in question, firstly, the idea that what he intended or dreamt occurred in the past and , secondly, the idea that what he intended or dreamt is properly said to be 'known' and 'remembered' by him.

The constitutive accounts of avowals of intention and of telling a dream draw upon the argument that there is no detectable fact which could possibly give us the knowledge we appear to possess. On the Wittgensteinian assumption that our everyday use of terms like 'knowledge' and 'memory' are immune to philosophical criticism, the constitutive account should be regarded as an entirely negative corrective to the Cartesian attempt to explain first person authority by analogy with perception, and should not be regarded as an alternative attempt to justify our commonplace talk of 'remembering' dreams and intentions. This assumption is hard to accept. My preference for the Dispositional over the Reductive Analysis reflects the desire, warned against by Malcolm, to explain our talk of dreams 'occurring during sleep'. I have argued in this chapter that an assumption that our ability to authoritatively tell a dream has a certain causal history, albeit not a history known by the dreamer, should be imported into ordinary talk in explanation of what it is for telling a dream to count as knowledge of something past. The next chapter (Chapter Six "Remembering Without Past Experience Or Representation") further attempts to meet the dissatisfaction with our everyday talk of dreams

being 'remembered' or 'forgotten' generated by arguments that the content of a dream cannot be identified with anything other than the content of a certain kind of awakening narrative .

Hunter comments upon the strategic intent of his distinction between raconteur and eye-witness, an intent similar to that of Wright's (1985) contrast between umpire and spectator:

> "We may, as suggested just now, be trading in fictions here, but if so they are fictions we are strongly driven to employ; and if one fantasy distorts our vision while another helps us see clearly, it may not matter that it is all a magic journey ..." [Hunter (197?) p.130].

Wright (1991) indicates the kind of dissatisfaction with the Wittgensteinian view which motivates my argument that the Reductive Analysis is an incomplete account of the ordinary concept of dreaming:

> " . . . the situation can seem intensely unsatisfying. The philosophical consciousness abhors a vacuum. If the model of the inward-looking observation statement fails, must there not be something better with which to replace it?
>
> It is precisely this (sort of) craving, I believe that Wittgenstein's emphasis upon the error of seeking philosophical *explanations*, and the contrast with what he regards as the proper descriptive method, is meant to engage . . . " [p.147]

Wright suggests that this kind of frustration cannot be avoided by "the hybrid attempt to marry default correctness of opinions about current intentional states with the idea that non-inferential knowledge of past intentional states is a matter of full-blooded recollection . . ." for the notion of 'full-blooded' recollection seems at home only as the retrospective counterpart of an epistemology of observation and no candidate for a fully determinate object of observation corresponding to our first person past tense utterances can be found. The argument of the following chapter is that craving for a 'full-blooded'

notion of remembering can be satisfied without importing the notion that what is remembered was an event, act, process, state or anything else previously experienced or represented by subject.

PART THREE

THE DISPOSITIONAL ANALYSIS

CHAPTER SIX

REMEMBERING WITHOUT PAST EXPERIENCE OR REPRESENTATION

1. To remember or forget a dream is to retain or lose an ability to tell a dream.

In the preceding chapter (Chapter Five - 'Dreaming Without Experience'), I argued that the authority we accord to a person's account of his own dreams can survive the empirical conclusion that the Received Opinion is false if we recognise, with Malcolm (1959), that questions about what a person dreams are questions about the stories a person can tell upon awakening where he is not remembering events from waking life. But, I argued, the conclusion that the Received Opinion is false does not lead automatically to an endorsement of the Reductive Analysis. The Reductive Analysis identifies the content of a dream with the content of a fictitious narrative told without inference or invention unconditionally upon any assumption about the causal explanation of 'telling a dream'. The Dispositional Analysis departs from the Reductive Analysis by taking ordinary talk of dreams being dreamt during sleep to imply the hypothesis that the content of our dreams are determined by processes occurring during sleep independently of the contingencies of awakening. The Dispositional Analysis retains the Reductive Analysis' identification of what a person dreamt with the content of his awakening narrative. But it denies that a person telling a dream is authoritative about the time at which he

dreamt the dream he tells within a period of sleep or even about the hypothesis that he dreamt the dream he tells during sleep.

In this chapter, I extend the Dispositional Analysis of dreaming to conclude that to remember or forget a dream dreamt during sleep is to retain or lose an ability to tell a dream acquired during sleep. I argue that the retention of a capacity to tell a dream is a necessary and sufficient condition of remembering dreams in the everyday sense of the verb 'to remember'. It is no objection that what the dream is about was not represented by the dreamer during sleep, or that he is unaware of the process by which he acquires the disposition to tell a dream.

I argue that scientific work on 'dream recall' is consistent with the conclusion that the Received Opinion is false. Scientific talk of dreams being remembered *could* be understood, like scientific talk about StageREM sleep being a period of 'perceptual activity', to be a metaphorical manner of expressing the Causal Hypothesis that, at some more or less central level, there is an analogy between the internal processes underlying perceptual memory and telling a dream. I further argue that scientific work on dream recall is *better* understood to imply the Dispositional Hypothesis that telling a dream is typically the exercise of an ability retained from moment to moment within sleep. (Don't be confused by my referring sometimes to the Dispositional *Hypothesis* rather than to the Dispositional *Analysis;* the Dispositional Analysis is just the analysis which takes the Dispositional Hypothesis to be central to talk about 'remembering dreams'.)

The connection between the Dispositional and Causal Hypotheses is made by what I'll call the Hybrid Hypothesis, that the internal explanation of our retention of the ability to tell a dream from moment to moment during sleep is analogous to the explanation of a witness' retention of his capacity to say what

he perceived. The plausibility of the Hybrid Hypothesis shows why it would not be unreasonable, given some further motive, to import the Dispositional Hypothesis into scientific talk of 'remembering dreams'. The further motive required for importing the Dispositional Hypothesis is provided by the fact that this would make the scientific hypothesis that dreams are remembered literally true or false according to our everyday notion of memory.

In the last section of Chapter Four ("'Perceptions' During Sleep") I argued that the discovery that dreams are dreamt with an order and pace analogous to waking perception or imagination would not in itself establish that a person is aware of anything. However, we can now see a reason why someone might wish to imply into ordinary talk about dreaming the assumption that our disposition to tell a dream is 'built up' in an order corresponding to the narrative content of the dream, albeit that the composition process procedes without the dreamer being aware of anything. The reason is that this would neatly explain our assumption that the dreams we tell are typically remembered. Dreams typically have a narrative structure (p, then q, then r, then s ...). Our conviction that the dreams we tell exhibit memory would be justified if it were established that had the dreamer been awoken a moment earlier he would have had a shorter version of the same dream (p, then q, then r, ...) to tell, and if awoken a moment before that he would have had a yet further truncated version of the same dream (p, then q ...) to tell, and so on. However, I draw short of identifying our conviction that dreams are remembered with the hypothesis that dreams are synthesized over time in a manner analogous the waking perception and imagination. The hypothesis that dreams are 'built up' with an order and pace akin to waking perception may be regarded as an elaboration of the Hybrid Hypothesis which indicates the close theoretical connection between the Causal and Dispositional Hypotheses.

I distinguish between what is strictly implied by our conviction that dreams are remembered (i.e. the Dispositional Hypothesis) and the additional empirical assumption (i.e. the Causal Hypothesis) central to the only experimental research which shows any prospect of justifying its truth. The Causal Hypothesis does but the Dispositional Hypothesis does not imply that the disposition to tell a dream is acquired with an order and pace akin to waking perception or imagination. However, the only reason I can give for preferring the Dispositional Analysis over the Reductive Analysis is that, according to the Dispositional Analysis, our conviction that dreams are remembered could yet find empirical justification in research centred around the Causal Hypothesis.

My reason for not implying the Causal Hypothesis is that I do not regard everyday talk about remembering as a form of causal explanation but as a historical reference to the continual possession of abilities to say and do things. If talk about dreaming were reduced to the Causal Hypothesis, talk about dreaming would not imply that dreams are remembered in the everyday sense of the verb 'to remember'. For the hypothesis that 'telling a dream' is produced by an internal representation or 'memory trace' (which normally explains the retention of a person's ability to say what he perceived and imagined when awake) establishes that a person remembers a dream only on the assumption that storage of a memory trace explains the retention of a capacity to tell a dream, if awoken, etc. Perhaps no other explanation of continous possession of an ability is imaginable. But it is not, therefore, a necessary condition of 'remembering' in the everyday sense of the word that retention of an ability be explained by storage of an internal representation. We can and do assert facts about the acquisition, retention and loss of abilities without knowing or caring about the role of physiological processes in producing our behaviour. For

example, a question about whether a dream told on Monday morning is recalled on Tuesday afternoon may ordinarily be answered with some assurance by questioning the dreamer at various times. It is a peculiarity of the ability to tell a dream that our knowledge of its acquisition, retention and loss *during sleep* is entirely speculative, and that confirmation of our speculations will depend upon scientific investigation of the causes of telling a dream.

The analogy asserted by the Causal Hypothesis between the internal processes underlying dreaming and waking perception is not equivalent to the truth of our conviction that dreams are dreamt during sleep and remembered or forgotten upon awakening. But the Causal Hypothesis is central to the only kind of experimental work which promises any hope of charting the acquisition and retention of our dispositions to tell dreams. The Dispositional Analysis leaves open the possibility that a justification of our conviction that the dreams we tell are typically remembered could be provided even were the Causal Hypothesis false. Say it were the case that dreams, no matter what their narrative length and complexity, are dreamt 'in a flash'. The proposition that the dreams we tell are remembered would imply here that the capacity to tell a dream dreamt in an instant is typically acquired some time before awakening and possessed continuously through a period of sleep. It could be that every dream we tell is dreamt the moment we fall asleep. This would falsify the Causal but not the Dispositional Hypothesis. What would falsify the Dispositional Hypothesis? The fact that the dreams we tell are typically dreamt 'in a flash' immediately before we are awoken would falsify our conviction that dreams are remembered.

We have no practical idea about how the Dispositional Hypothesis might be tested apart from the Causal Hypothesis. We have only some idea of the sorts of experimental work which might show that the dreams we tell exhibit

memory in virtue of being synthesized over time with an order and pace analogous to waking perception and imagination. Unless it were for the practical use given for our ordinary conviction that dreams are remembered afforded by research centred round the Causal Hypothesis, there would be no reason to suppose our talk of remembering dreams had any empirical substance. In particular, there would be no reason to object to Malcolm's contention that the verb to 'remember' has a special sense appropriate to dreaming, according to which to remember a dream is simply to be able to tell upon awakening a fictitious story as if of events witnessed.

A problem about our conviction that dreams are remembered is given by the possibility that telling a dream might, at least sometimes, be the exercise of an ability acquired during sleep immediately before awakening. If, as I suppose, it is a necessary condition of remembering that the ability be *retained* it follows that a dream (or fragment of a dream) dreamt during sleep immediately before one awakens to tell it is *told without remembering*. I argue that telling a dream (or initial fragment of a dream) dreamt immediately before awakening cannot be accounted a case of remembering. Our commonplace conviction that dreams are remembered from sleep should be taken to imply that telling a dream typically involves the exercise of an ability retained from moment to moment within a period of sleep. It is *not* a necessary condition of telling a dream dreamt during sleep that one remember it. Rather every dream, or at least the initial fragment of a dream, *could* have been told *without remembering*. It is consistent with our conviction that dreams are remembered that some of the dreams we tell (we know not which) are told without recollection.

Dennett (1976) took the phenomenon of telling a dream to illustrate a general point about our conception of ourselves, namely, that it is part of our

ordinary notion of experience that what a person experiences transcends what he is currently able to say about himself. He argued that a storage theory of short-term memory could establish objective criteria for what a person experienced in the immediate past independently of what he was currently able say at the time. His wider aim was to canvas the idea (summed up in his slogan "introspection is typically retrospection") that 'introspection' should be explained scientifically in terms of models of short-term memory. Such explanation would give substance to our commonplace supposition that what we say about our current thoughts, images, sensations and so on is answerable to a fact determined prior to the fallible process of public utterance.

Dennett's argument suggests that there is a notion of 'remembering dreams' which does not imply that a dream remembered upon awakening is one which the dreamer could have told if he had been awoken earlier. It suggests that, where the determination of the content of a person's dream prior to awakening is explained by an information processing model of short-term memory (the normal process of awakening to tell a dream corresponding to the normal processes by which the information represented in short-term storage is accessed), the fact that a dream told was dreamt during sleep is a sufficient condition of its being remembered. In resistance to Dennett's suggestion, I argue that a causal-cum-representational analysis of remembering dreams does not escape the need to distinguish between the everyday notion of memory appropriate to *retaining* an ability to tell a dream and a technical notion of storage in short-term 'memory'.

Dennett's proposal that an information processing model of short-term memory is appropriate to explain one's 'introspective' ability to say what one was thinking in response to the question "What's going through your mind *just now?*" does not show that we are ordinarily wrong to distinguish between

responses to such a question and 'memories'. There is a distinction worth making which survives Dennett's conclusion that we have no privileged access to our own experiences. That is the distinction we ordinarily draw between saying what was going immediately through one's mind and remembering, in the usual sense of retaining an ability. Equally, the proposal that telling a dream (or fragment of a dream dreamt) immediately before (or 'interrupted' by) an awakening is explained according to an information processing model of short-term memory does not show that we are correct to call such cases of telling a dream 'remembering dreams'. It is a necessary condition of remembering that the dream (or fragment of the dream) could have been told if the dreamer had been awoken earlier.

2. Our awakening conviction that something is remembered is sufficient reason for scientists to advance the Causal Hypothesis (that telling a dream is produced by internal processes similar to those which explain a witness' ability to remember what he saw).

When a person awakens to tell a dream, he is convinced that he has something to remember. It appears both to him and to an observer questioning him about his dreams that he is recalling something or struggling to recall something that has been lost. In many (but not all) respects telling a dream has the appearance of remembering events recently witnessed and deed recently done. Telling a dream has the phenomenal characteristics of an act of episodic memory described by Tulving:

> "The strong feeling of the veridicality of the memory somehow is immediately given in the recollective experience; it is an integral part of the past event now remembered, and need not be inferable from other knowledge. The basis of such a belief is a deep mystery. Since the rememberer usually has no way of

> comparing his memory of the event with the original, the belief cannot be based on the results of a comparison process. Moreover, it is quite possible to 'remember' as true something that in fact is false . . .
>
> When others tell us that something is wrong, we may be persuaded by evidence that speaks to the issue . . [a] discrepancy in our memory belief concerning a particular past episode that we clearly remember . . . [but] our subjective feeling of veridicality of the recollective experience remains unchanged even when we intentionally accept the verdict of others." [Tulving *Elements of Episodic Memory* 1987 p.40].

Supposing that the conviction that episodes are remembered from sleep is illusory, what justification could be given for the adoption of models of episodic memory in the scientific study of this phenomenon of merely apparent memory? A sufficient justification is simply this: that it is reasonable to suppose that the proximate causes of our merely apparent memories of events witnessed are interestingly similar to the proximate causes of our genuine memories of events witnessed, and that it is the business of scientists to investigate the internal causes of our awakening impressions as if of events witnessed, whether or not anything is actually remembered.

Psychologists may address the phenomenon of 'dream recall' without assuming that anything is genuinely remembered, without assuming that telling a dream demonstrates retention of knowledge previously acquired 'through experience'. The important question for the experimental researcher is how the awakening impression as if of events witnessed is produced. His hypothesis that a person's awakening narrative of a dream is a 'memory' may be understood to imply that it is produced by a mechanism the normal function of which is to retain a person's capacity to say what he previously witnessed,

and need not be taken to imply that something is, strictly speaking, genuinely remembered.

Where a scientist advances the Causal Hypothesis about our awakening impressions as if of events witnessed, he may quite properly distinguish among circumstances which increase the likelihood of a person telling a dream upon awakening between those which determine the likelihood of his having dreamt and those which determine the likelihood of him 'remembering'. The distinction may be drawn by analogy with variables known either to facilitate or inhibit recall in paradigm cases of perceptual memory. A range of paradigm cases of remembering, misremembering and forgetting, in which there is a clear operational definition of the distinction between failure to remember some information and failure to perceive or learn the information, is crucial to the development of models of episodic memory. The model thus developed is assumed to represent the operation of an internal mechanism whose normal function is to provide the marvellous but peculiarly limited human capacity for retention of knowledge. It is not a forgone conclusion that the model of a mechanism inferred from paradigm cases of remembering events witnessed can be usefully applied to non-paradigm cases where an impression as if of events witnessed is produced when nothing was perceived. But it is a promising hypothesis that a model of episodic memory may be used to describe and predict internal mechanisms producing the potentially illusory impressions upon awakening we call 'remembering dreams'.

The scientist's assumption that telling a dream is analogous to remembering events witnessed implies that at some more or less peripheral neurophysiological level something corresponds to the 'learning' or 'perceptual' stimulus. Crucially, it is supposed that there is some common process or event which may be identified as the laying down of a 'memory trace'. The ability to

tell a dream upon awakening is to be explained as the 'activation' of such a memory trace, and the inability to tell a dream upon awakening is sometimes to be explained as a failure to consolidate or activate the trace. The problem of finding an experimental definition of 'dream recall failure' may thus be regarded as the problem of deciding when to infer the existence of some neurophysiological event or process corresponding to the 'laying down of a memory trace' on a model assumed to explain the normal production of our awakening impressions as if of events witnessed developed in paradigm cases where something is remembered, misremembered or forgotten.

When scientists speak of dreams being 'remembered' or 'forgotten', they may be understood to mean that some event or process in the brain corresponds in its functional role, narrowly circumscribed, to the 'memory trace' in a model of episodic memory. But to suppose that, where such a model has a useful explanatory role, something is remembered would be to confuse the internal processes causing the appearance of memory (i.e. the hypothetical 'memory trace') with what could be remembered (i.e. the intentional object of memory). The hypothesis of a memory trace does not imply that behind every public occasion of perception or learning observed in the laboratory there is some inner act of perception or learning and that, strictly speaking, this is what is remembered or forgotten when a person remembers or forgets what he saw or learned flashed upon the screen in the laboratory. The suggestion that a brain structure has a content defined by the information it normally enables us to retain should not mislead us to overlook the possibility that, in some 'abnormal' circumstances, the same brain structure may be produced without antecedent perception or learning and may in turn produce a merely apparent memory.

When the scientist hears a philosopher question whether dreams are genuine memories, he misunderstands this as an hypothesis about the causes of 'telling a dream'. The scientist misunderstands the philosopher's proposition that dreams are not genuine memories as the hypothesis that, for example, the internal mechanisms which normally enable a person to retain knowledge have broken down, or that narratives of dreams are produced by the operation of a 'confabulation' mechanism the function of which is to preserve a person's self-conception. The philosopher's point, that an internal mechanism which normally functions to retain knowledge, may function in its normal way and yet produce a 'memory act' which is not the demonstration of knowledge, for nothing was known in the first place, suggests no alternative hypotheses about the internal production of dream narratives. It is a proposition of no use to the experimental scientists. Not surprisingly, the scientist either mistakes the philosopher for an arm-chair theorist or mistakes the philosopher to be telling him that he cannot intelligibly formulate hypotheses which he plainly knows he can, for he already has a variety of confirming and disconfirming evidence.

3. Demonstration that telling a dream is caused by 'memory mechanisms' would not show that the dreamer remembers anything that happened during sleep.

Scientists are captivated by the idea that telling a dream is essentially similar to recounting events recently witnessed, despite the obvious evidence that the subject recently saw and did nothing. Unfortunately, researchers assume, despite the absence of anything corresponding to the events a witness remembers, misremembers or forgets, that what is retained is not an ability previously acquired without awareness but knowledge about something of which the subject was aware during sleep. They confuse the inner causes of our

disposition to awakening narratives with the occurrence of some thoroughly mysterious 'inner experience' of which the subject is, somehow or other, 'aware'.

The prejudice that something 'like' the ostensible contents of our dream narratives is remembered from sleep encourages a misunderstanding of the not implausible hypothesis that what causes our awakening impressions as if of events witnessed are brain processes similar to those which occur when we remember events recently witnessed. It is a mistake to confuse this causal hypothesis with the hypothesis that a person's awakening impressions are memories of what recently seemed to him to be happening. It does not follow that, if neurological processes normally operating in cases of remembering also operate in a case of appearing to remember, then there is in the latter case something which is remembered. It requires further argument that we were aware of what we appear to remember, or of something which seemed to us like what we appear to remember, or of some actions or intentions in virtue of which we may be said to have believed falsely what we appear to remember. We could in fact remember something which is the normal cause of our awakening impressions of dreams; but it is doubtful that peripheral physiological behaviour let alone central brain processes are remembered upon awakening.

It is probably false that everything we call 'remembering' has a common neurophysiological cause. Scientist need much more precise characterisations of the kinds of abilities for which they postulate distinctive internal systems than is provided by the everyday use of terms like 'remembering'. In practice these more precise characterisations are provided by experimental paradigms which, not surprisingly, attract the criticism of being artificial and removed from the vast diversity of everyday phenomena we call 'remembering' [Neisser (1978)]. But let us suppose that it is not improbable that our awakening impressions of dreams are produced by events within us similar to those which

explain paradigm cases of remembering events recently witnessed whilst awake. Still, it is one thing to hypothesize that acts of remembering have a common neurological cause, and quite another to say that every act which has that kind of neurological cause is an act of remembering.

My impression of sheep recently chewing in the vegetable garden is caused by the sheep which recently got through the open gate. A complex chain of events stretches between those sheep and my present memory of them and, no doubt, the most interesting part of this causal chain lies within my skull. Let us suppose that part of the story, presumably some fairly central process enabling me to make use of and retain information gained through perception, is likely to feature commonly in a variety of distinct cases of remembering what one has seen or seemed to see. This process may be identified and studied by scientists independently of what has gone on outside my skull and even independently of the peripheral physiological mechanisms registering sensory stimuli. However, the wider context is essential to determine that I saw and remember sheep. It could have been that I saw goats and misremember them as sheep. It could have been that I hallucinated the whole incident. The facts of the case cannot be determined without regard to my recent behavioural history and the events impinging on my surfaces.

That some distinctive neurological mechanism causes my impression of rampaging sheep is insufficient reason to say that I remember or misremember anything, unless some assumption is made about the normal context in which that process operates. This is not to say that the fact that my present impression has a particular neurophysiological cause is irrelevant to establishing what if anything we remember. It is relevant in much the same way that the fact that I have a vivid impression as if of sheep recently rampaging is relevant to what if anything I remember. Present impressions as

if of events recently witnessed usually (Russell would say 'necessarily') occur when I remember what I recently saw or seemed to see. Let us suppose that such present impressions are produced by characteristic neurophysiological processes and that, such processes usually (Martin and Deutcher (1968) would say 'necessarily') occur when I remember what I recently saw or seemed to see. At face value, the occurrence of my present impressions or other evidence of the neurological processes which typically produce such an impression would be very good evidence that I remember seeing, or at least seeming to see, rampaging sheep. For, normally, I have a vivid impression of X only where, in the recent past, I have seen X or have at least seen something Y of a kind which is sometimes, and for explicable reasons (e.g. its likeness when silhouetted against the sun), mistaken for X. Such is the general pattern of nature.

Even so, in some cases, the pattern of things is incomplete. Suppose, for example, that there was nothing in the garden resembling sheep or that I spent the morning playing chess with my computer and did not once glance out into the garden. Where such facts are known then neither my present impression as if of sheep, nor the occurrence in me of the type of neurophysiological processes which normally produce memories of sheep, would be sufficient evidence for the conclusion that something is remembered.

So far, I have argued that scientific research into 'dream recall' *need not* be concerned with the question as to whether anything that happens to us during sleep is remembered; it may properly concerned itself with the causes of awakening narratives associated with sleep, in particular with the neurophysiological mechanisms which produce our apparent memories as if of events witnessed; it may proceed on the assumption that, in general, nothing is remembered from sleep. Unfortunately, few sleep researchers would regard their efforts in this light. Most investigators suppose both that dreaming is an

'experience' perfectly isomorphic with some more or less central brain process and that our 'verbal reports' of this experience are caused by that brain process. The hypothesis that our awakening narratives are memories of this 'experience' is supposed to be justified by demonstrating that they have the right sort of causal connections to the right sort of cerebral processes occurring during sleep. The 'right sort' of processes are those which are analogous to what normally goes on in us in paradigm cases of remembing events recently witnessed when awake.

Most sleep researchers would mistake my claim that nothing or nothing much of what happens during sleep is remembered upon awakening for a rival speculation about the inner causes of our awakening impressions. They would mistake it for the hypothesis that the neurophysiological causation of narratives or dreams is not analogous to that of paradigm cases of remembering waking perceptions. They would regard my strictures on the concepts of memory and perception as amateurish efforts to advance the hypothesis that the dreams we tell are akin to the 'confabulations' of victims of Korsakoff's syndrome, that they have a common explanation with *deja vu* or with the 'memories' surgically induced by Penfold.

Sleep researchers are by and large confused about the distinctions between a causal explanation of our apparent memories in terms of brain processes and the discovery of what, if anything, is remembered. The generation and testing of hypotheses about the neurophysiological causes of our awakening narratives is the business of these scientists. So long as they are getting along with that, perhaps it does not matter very much that sleep researchers talk as if they were investigating what is remembered upon awakening. Is it not a merely philosophical quibble that, when presenting their results, scientists tend to

indulge in a thoroughly confused preamble about 'private experience', 'phenomenal aspects', 'parallel dualism' and the like?

Unfortunately, I suspect, the 'common sense' assumption that our awakening narratives of dreams are genuine memories of 'inner experiences' has had a deep and distorting influence both on the direction of research and upon the interpretation of the experimental results. My suspicion is that scientists would do their science better if they were liberated from the prejudice that whether or not something is remembered from sleep depends upon the occurrence of some 'inner experience' which, if not identical to the brain processes under investigation, is somehow supervenient upon those processes and can be inferred from them. Whether or not this suspicion is justified, the point remains that it is no business of empirical scientists (or anybody else, for that matter) to attempt to infer some further sort of entity or activity in addition to biological processes and the functional characteristics of those biological processes.

My main purpose is not to argue that scientists are conceptually confused about 'dreaming', 'memory' and 'perception'. It is to argue that empirical research into sleep and dreams is coherent with the assumption that dreams are what we appear to remember on awakening whether or not anything is in fact remembered. My contention is that what scientists are concerned with when they question whether or not dream narratives are 'memories' of 'perceptions' are questions about the cerebral causes of our awakening narratives, questions which may be satisfactorily answered without the encumbrance of supposing that there is 'something' which the person within whom these processes occur actually perceives or remembers. Where neurophysiological evidence is supposed to confirm or disconfirm the hypothesis that something is 'perceived' during sleep and 'remembered' upon awakening, scientists can be taken to be using these terms quite legitimately in

a 'narrow' sense which should be distinguished from that of everyday language. What researchers mean, in this narrow sense, is that, in respects consistent with an explanation of a person's behavioural inertia and inability to perceive his environment, brain events and processes occurring during sleep cause our awakening impressions as if of events witnessed in a manner that is analogous with the internal causation of paradigm cases of remembering events recently witnessed whilst awake.

Thus scientific studies of 'dream recall' *need not* be particularily concerned with the only sense in which dreams may literally and plausibly be said to remembered (i.e. with the retention or loss of a behavioural disposition to tell a certain dream). Research into 'dream recall' may be concerned only with a 'narrower' analogy between internal events inferred in cases of remembering events witnessed and in cases, associated with recently awakened subjects, of merely appearing to remember events witnessed. However, I now wish to argue that scientific studies of dream recall *can and should* be taken to imply that to remember or forget a dream is to retain or lose the ability to tell a dream, whether or not that ability is acquired 'through experience'.

4. Scientific talk of dreams being 'remembered' or 'forgotten' would, like scientific talk of dreaming being a 'perceptual activity', be a purely metaphorical manner of expressing the Causal Hypothesis, unless it were supposed to imply the Dispositional Hypothesis.

There are two senses in which telling a dream upon first awakening may be said to be a phenomenon of 'memory'. In the first sense, all that is implied is the hypothesis that, at some level of centrality, there is a similarity among the brain processes which produce our impressions as if of events witnessed between the case of telling a dream and the case of remembering events witnessed. The

term 'memory' is here used metaphorically to refer to some hypothetical internal process (the 'laying down of a memory trace') defined by some limited aspects of its normal functional characteristics or 'narrow causal role'. Strictly speaking, it is not implied, in this sense, that telling a dream is a genuine case of remembering anything. It does not follow from the occurrence of certain brain processes within him that a person is aware of anything, unless it be inferred from the occurrence of these processes that he is currently disposed to do or say things that would show him to have certain beliefs and intentions about his sensible environment, and such behavioural effects are specifically excluded from the scientific hypothesis that there is an analogy among central brain processes between sleeping and waking.

In the second sense, it is implied that the original telling of a dream is a case of remembering only where one is demonstrating a disposition or capacity previously acquired and retained during sleep. The terms 'remembering' and 'forgetting' refer literally to the retention or loss of a non-consciously acquired and retained ability to tell a dream if awoken and promptly questioned. In this sense, it is not implied that telling a dream is remembering something which happened to the subject or of which he was aware during sleep.

Corresponding to the two senses in which the original telling of a dream may be said to be a phenomenon of 'memory', there are two hypotheses open to scientific investigation. Firstly, there is the Causal Hypothesis that, in telling a dream, our impressions as if of events witnessed are produced by internal processes occurring during sleep similar to those which occur in cases where we remember events witnessed. And, secondly, there is the Dispositional Hypothesis that, in telling a dream, we are exercising a disposition to tell a certain dream (if awoken, prompted, etc.) unconsciously acquired and retained during sleep.

When researchers talk of dreams being 'remembered' they *could* be understood to imply the Causal Hypothesis. On my account, this talk is consistent with the conclusion that, in telling dreams, we do not remember anything that happened to us during sleep. All that is meant by the terms 'remembering' or 'forgetting' is that some brain process occurring during sleep explains telling or failing to tell a dream upon awakening in a manner analogous to the internal explanation of a person's remembering or forgetting events previously witnessed. This use of these terms is entirely metaphorical. Confusion arises where the hypothesis that our awakening impressions have a certain internal etiology is mistaken for the hypothesis that we are remembering something, namely, an 'inner experience'.

It seems to me, however, that research directed towards the Causal Hypothesis can and should be regarded as presupposing the Dispositional Hypothesis. It would be reasonable for scientists who advance the Causal Hypothesis to do so on the tacit assumption that it follows from the Dispositional Hypothesis via the further Hybrid Hypothesis that the internal explanation of the retention or loss during sleep of a disposition to tell a dream (if awoken, prompted, not distracted, co-operative, sincere, etc.) is analogous to the internal explanation of the retention or loss of a witness' disposition to say what, at a given time, he perceives (if prompted, not distracted, co-operative, sincere, etc.). Importing this assumption into scientific talk has the advantage that talk about dreams being 'remembered' or 'forgotten' during sleep may be construed as literally true or false without thereby rendering it probably false in advance of scientific research.

Whereas the empirical fact that we do not typically remember what happened during sleep is conclusively established without reference to brain processes occurring during sleep, it is open for scientists to provide some testable

account of telling a dream as the retention or loss during sleep of a disposition to an apparent memory if awoken. Hence, when researchers talk of a person 'remembering a dream' they may only be taken to mean, metaphorically, that a person's awakening impression has a certain kind of internal cause, but they are are better understood to mean, literally, that he is exercising an unconsciously acquired and retained disposition to tell a certain dream.

In telling dreams, we could typically remember the causes of our awakening impression as if of events witnessed, but the empirical evidence shows conclusively that we do not. I take it to follow from the empirical fact that nothing, or nothing much, of what happens to us during sleep is remembered upon awakening, that the concept of dreaming should be clearly distinguished from the concept of the normal cause of our telling a dream upon waking. To use the word 'dreaming' to refer to the typical neurophysical cause of telling a dream upon awakening (supposing that there is such a typical cause) would be to sustain the widespread confusion between two kinds of explanation of a person's awakening narrative. The causal explanation of a person's present capacity or disposition to tell a story should be distinguished from the explanation of it as the retention of a capacity or disposition previously acquired. Once that distinction is made, there is a good reason to reserve the verb 'to dream' for the acquisition of a behavioural capacity or disposition rather than merely for the occurrence of a functionally distinctive kind of brain process. For this allows us to give some (perhaps undeserved) plausibility to the commonplace thought that dreaming a particular dream is something that can be remembered or forgotten during sleep. By contrast, the price of insisting that 'dreaming' is the normal cause of awakening narratives of dreams is the unmitigated conclusion that we do not remember dreaming, for there is

insufficient reason to suppose that we are aware of the neurophysiological processes which occur within us whilst we are asleep.

Only if we distinguish 'dreaming' as the unconscious acquisition, however briefly, of the capacity to tell a dream if awoken can we give some plausibility to the hypothesis that a person is remembering or has forgotten a dream dreamt earlier in the night. Everyday questions about remembering and forgetting dreams dreamt at particular times during sleep are best understood as questions about whether telling or failing to tell a dream on awakening is the retention or loss of a capacity or disposition acquired earlier in the night; that is, about whether, on awakening, a person remembers or forgets an apparent (usually merely apparent) memory he would have had earlier if awoken. Scientific discoveries about the typical causes of telling a dream which support content-relative predictions about the content of a person's apparent memories if awoken would be crucial to test everyday talk about the acquisition and retention of the disposition to tell a particular dream. But if we were to call that neurological cause 'dreaming', rather than the disposition which it typically explains, we would rule out 'dreaming' from among the kinds of things which a person may plausibly be said to remember or forget during sleep.

Experimental work on sleep and dreams *could* be coherently understood on the assumption that, strictly speaking, nothing is remembered from sleep when a person tells a dream. It is possible that scientific talk of 'remembering' or 'forgetting' dreams during sleep be regarded as entirely metaphorical, that it implies nothing more than the Causal Hypothesis about the etiology of our awakening impressions as if of events witnessed. However, scientists *can and should* be construed as presupposing the Dispositional Hypothesis when they talk of dreams being 'remembered' or 'forgotten' during sleep.

A distinction is drawn by scientists between processes which produce *dreaming* (e.g. the firing of PRF neurons associated with StageREM sleep, Hobson & McCarley (1977)) and factors which determine a person's subsequently ability to *remember* a dream dreamt (e.g. momentary arousal interrupting dreaming, allowing the trace to be coded for subsequent retrieval from long-term storage, Koulack & Goodenough (1976)). This distinction is best understood as an explanation of inferred discrepancies between what a person says upon awakening and what he would have said if awoken earlier. The main problem confronting any theory of 'dream recall' is to establish experimental criteria for the acquisition of a disposition to tell a dream if awoken.

What Goodenough (1978) calls the problem of defining dream recall failure is, according to the Dispositional Hypothesis, the problem of identifying the acquisition and loss during sleep of a disposition to tell a certain dream (if awoken, etc.). According to the Causal Hypothesis, the problem is that of identifying the acquisition and loss of an internal process occupying the role of memory trace in some model of episodic memory. In principle the two formulations of the problem are distinct. However, the problems merge where it is supposed, according to the Hybrid Hypothesis, that the the acquisition of a disposition to tell a dream (if awoken, etc.) is explained by the occurrence of an internal modification (the 'laying down of a memory trace') which is known in paradigm cases of remembering events witnessed to mediate between the perception of an event and the subsequent recollection of what happened or seemed to happen.

The possibility of distinguishing 'recall' factors among the circumstances affecting the likelihood of a person having a dream to tell presupposes that there is some means of identifying, without awakening the subject, the

acquisition and loss of the capacity or disposition to tell a certain dream (if awoken, etc.). What I call the Hybrid Hypothesis predicts that there is an analogy between the internal processes normally responsible for the retention of a witnesses capacity to say what happened or seemed to him at the time to be happening and the internal processes normally responsible for the retention or loss during sleep of a dreamer's capacity to tell his dream (if awoken, etc.). There is no necessity that the internal processes responsible for the retention during sleep of a disposition to tell a certain dream be the same as those responsible for the retention of knowledge of events witnessed. But the Hybrid Hypothesis is a reasonable starting point (the only one we have) for experimental research.

5. It is not a necessary condition of remembering that a person have consciously represented what he remembers either now or in the past.

Malcolm spoke, perhaps uncharacteristically, of relating a narrative as if of past events witnessed *under the influence of an impression*. No wonder that Pears (1960) questioned whether Malcolm's account of remembering dreams is "too thin and Humean". The idea that what we say when telling a dream is answerable to something present which connects us with something past comes very naturally to us; it is as if one has before one the very colours, the tastes and texture of one's dream and struggles to find the correct description before the impression fades or is corrupted. Many philosophers have been struck by the idea that our knowledge of the past must be grounded, if not in inference from the publicly observable effects and traces of the past (e.g. ruins, records and libraries, etc.), then in a kind of inference from privately observable effects and traces of the past recorded within us. Russell captured the thought when he said that "memory *demands* an image". Russell followed in the empiricist

tradition by conceiving of memory as a source of knowledge akin to perception. What justifies a claim to see something, on the empiricist account, is that one's knowledge is based upon one's having an immediate impression of it; similarly, what justifies a claim to remember something is that one's knowledge is based upon a present impression of it. Our memory-claims may be more or less accurate representations of past events, but it is only to the extent that what we say faithfully describes our present impression that we *remember* what we truly say.

Dennett (1976) observed that in remembering an event we "interpret, extrapolate, revise". He supposed, like Russell, that there is a distinction between what we *directly* remember and the indefinitely various things we we can do and say because we remember. "What is the *raw material*, the evidence, the basis for those reconstructions we call recollections?", Dennett asked [BS. p.132]. The question is essentially that which Russell thought *must* have an answer when he postulated the 'memory image'. Russell's claim that memory requires an image was not arrived at by careful introspection. The memory-image is a theoretical construct supposed to explain how it is that we can presently know something because we experienced it in the past. Dennett abandons any pretence that what Russell demanded (the distinctive evidentiary contribution of memory to what "we call recollections") must be discoverable among the phenomenal accompaniments of recollection:

> "Whatever it is that is directly remembered can play its evidentiary role in prompting an answer of recollection without coming into consciousness. This suggests that when we remember some event, there is some limited amount of information that is *there*, not necessarily in consciousness but available in one way or another for utilisation in composing our recollections and answering questions we or others raise. Perhaps what occupies this functional position is

> an immensely detailed recording of our experience to which our later access is normally imperfect and partial . . ." [BS. p.133].

Dennett denies that the present representation of past experience need be transparently available to conscious inspection. Furthermore, he supposes that the present representation could correspond to a past representation of experience not available to concurrent conscious inspection. We have, Dennett observes, a capacity to remember features of the objects of our past experience which previously went unremarked, to which we previously paid no or little reflective attention.

I agree with Dennett that it is not a necessary condition of remembering that what one remember be the object of present conscious inspection or of past conscious inspection. But I do not thereby accept his contention that the postulation of internal representations to which we have no privileged access is part of our ordinary talk about 'remembering'. And I certainly do not thereby accept that what we can remember about our past experience transcends our abilities to say at the time what we are experiencing in virtue of its being the product of a representation stored in 'short-term memory'.

6. Even supposing that to remember is to know now *because* one knew in the past, it is not a necessary condition of remembering that the knowledge retained be stored as an internal representation or 'trace'.

In his introduction to *RePresentations*, Fodor suggested that the inevitable doom of philosophical behaviourism lay in the fact that persistent questions about the explanation of our behavioural capacities demand that we postulate internal thought processes mediating between stimulus and behaviour. Consider the explanation of 'Eureka' phenomena produced by sleep. What questions is it reasonable to ask about a person who awakes with an original

solution to a puzzle? Malcolm suggested that all psychology can say is that a person has acquired an ability without the exercise of his intelligent and creative capacities. There are interesting questions about the physiological processes which produce this result. But the physiological explanation is of quite a different order from explanations citing processes of reasoning, trial and error, self-criticism, following hunches and so on that are appropriate to waking people engaged puzzle-solving.

Experimental results might establish many interesting things. We might hypothesize that the first four hours of sleep are best for cross-words and test this by waking subjects at different times. We might hope to relate the acquisition of intelligent capacities to electro-chemical processes in the brain. But need anything be supposed about unconscious thought processes occurring during sleep? Need it be supposed that the explanation of one's awakening capacity in terms of non-conscious thought process during sleep shows that anything is remembered? On Dennett's view, and Fodor's, we haven't got a clue how to relate physiological processes to intelligent behavioural capacities in any detailed way without conceiving of those processes as computational manipulation of symbols. To say, as Malcolm would, that such talk is metaphorical 'as if' talk is arbitrary without some account of what makes it literally true of people and, according to Dennett, the best account we can give of the legitimacy of ascribing mentalistic terms to people, namely, that it is predictively valuable, is the same account of the justification of talking this way of sub-behavioural mental processes. Once again, my hostility towards scientific explanations in terms of internal representations is muted. But my sympathies lie with Malcolm against the attempt by philosophers like Fodor and Dennett to regard ordinary talk of remembering as a species of information processing theory. Even if ordinary talk of remembering were a species of

causal explanation, it would not follow that the causal connection between a person's present and past knowledge must be mediated by an internal representation.

Russell thought it possible that the 'ultimate' explanation of memory-knowledge could simply be that we have a present memory-image of certain events *because* in the past we experienced those events. Russell found nothing repugnant in the notion of 'Mnemic' causation according to which an event in the distant past may explain an event in the present without implying anything about a process of contiguous events mediating between past and present. He did not doubt that it is *probable* that our past experience effects our present memory-image by means of a modification of our physiological structure continuous between the two but he saw no particular reason for saying here that what is very probably true *must* be true. Many philosophers have rejected the notion of Mnemic causation and have argued, in contradiction to Russell, that the continuous existence of a 'trace' or 'engram' is part of the very concept of memory.

What is not at issue is that the explanation of the connection between present knowledge and past experience offered by 'He remembers' presupposes that during the intervening period a person has retained his normal physiological constitution and that some processes within him formed a continuous chain of cause and effect between his past experience and present dispositions. What is at issue is whether it is implied that there is a distinctive kind of physiological modification brought about by a person's experience of past events which is a *persistent representation* of that past experience in one who is disposed to recall those events given the appropriate occasion and cues. Broad makes this clear in his criticism of Russell:

> "On the trace theory there is a *special* persistent condition, which was started by the past experience and would not have existed without it . . . On the trace theory, if you were to take a cross-section of the history of the experient's body and mind anywhere between the past experience and the [recall] stimulus you would find something Viz., the trace, which corresponds to and may be regarded as the representative of past experience . . . On Mr. Russell's theory . . . these intermediate slices . . . would contain nothing which corresponds to and represents the past experience" [Quoted from *The Mind and its Place in Nature* in Malcolm (1977) p.187].

The idea of a persistent representation stored in our minds or brains is, on the face of it, implicit in many of the kinds of things we ordinarily say about recalling. It is entirely natural for us to say that we are searching in our minds or racking our brains for some piece of information and to explain our inability to find it in terms of either the loss or decay of what was one deposited there, the insufficiency of present clues to identify its exact whereabouts, by its never having taken up fixed residence in the first place. According to Martin & Deutcher (1966), the idea of a memory trace,

> " . . . is an indispensable part of our idea of memory. Once we accept the causal model for memory we must also accept the existence of some sort of trace of structural analogue of what was experienced . . . There is an inevitable recourse to metaphors about the storage of our past experience involved in our idioms and thought about memory" [p.189].

As Malcolm noted, Martin & Deutcher take our ordinary talk of storage to be both metaphorical (a metaphor for the retention of an ability) and literal (implying that some neural representation exists continuously in the brain). It is not entirely clear whether they mean that literal storage is retention in memory or whether is the only kind of explanation imaginable of the

continuous possession of an ability. But either way, they take it that when we say that a person remembers something we are, firstly, giving a particular kind of causal explanation of how a person knows something now because he acquired that knowledge through his past experiences and, secondly, imply that the appropriate kind of causal connection is mediated by a continually existing feature of that person which effects his exhibition of knowledge when prompted.

Several philosophers, Malcolm among them, have responded to Martin & Deutcher by arguing that our ordinary idioms of storage are merely metaphors for retention. As Ryle had it, what is most often implied when we account for someone's knowing something by saying that he remembers it is that he learned something and has not forgotten it. To say that he remembers how to tell the joke about the 'ticket to heaven' is to say that he can still tell the joke and not to mention something that we should find in him existing independently of any of the situations in which he might attempt to tell the joke. Malcolm criticised philosophers and scientists for mistaking the implications of our everyday idioms:

> "Martin and Deutcher declare that out 'recourse to metaphor about the storage of our past experience" is "inevitable". Whether or not these metaphors are inevitable, they are *natural*. Just as natural as exclaiming, when bitterly disappointed in love, that "my heart is broken." To take the storage metaphors . . . as giving some warrant to the assumption of *traces (literal* storage) is both humorous and saddening. It has the comical aspect of being deceived by a pun. But when one sees this pun playing a part in the creation of a mythology of traces, where theories and research are pursued in dead earnest, one cannot help feeling a kind of grief" [*Memory and Mind* p.199].

Malcolm was prepared to grant Martin & Deutcher that 'He remembers it' is ordinarily a form of causal explanation. He disagreed with them that the kind of causation involved either implies the availability of a general law or the mediation of a process or chain of contiguous events. But there are some grounds for questioning the assumption that 'He remembers' functions to cite a particular kind of causal explanation of how a person knows something now because he acquired that knowledge through his past experiences.

7. Talk about remembering is not a form of causal explanation.

According to Squires, the fundamental lesson to be learned about the everyday concept of memory is not just that retention in memory does not imply literal storage but that it does not even imply that one has something now *because* one had it before. Martin and Deutcher were correct when they argued that memory implies something more that that one previously had some knowledge and that one have that same knowledge now. But they were wrong to suppose that the further feature is causal connection rather than uninterrupted or *continuous possession*. It is neither a necessary nor a sufficient condition of uninterrupted retention that there should be a causal connection between the same past and present states. The stash of money Grandma kept under the mattress may have retained its value because there was zero inflation and not because it had that value in the first place. My Government Bonds may be worth now what they were when I purchased them five years ago because repayment at the original real value was guaranteed after five years; but they did not retain the same value over that time (as I'd have known if I'd read the penalty clause for early repayment).

Squires (1969) argued that conditionals of the form 'if X had not been F yesterday then it would not be F now' do not always express a causal condition.

They often function to rule out certain kinds of causal explanation - nothing of the relevant kind has happened - without thereby citing an alternative cause.

> "Having seen that such conditionals are at least true in many cases of retention, the causal theorist mistakenly supposes that they assert causal connections. This leads to the belief that there is a causal chain, perhaps discoverable by scientists, which mysteriously links the states of the object through time . . . " [p.182].

Of course, the claim that X has retained F my lead us to anticipate an explanation of why X was F in the first place; but it would be a confusion to suppose that X having F is itself offered as a causal condition of X having F.

The claim that 'He remembers . . . ' serves primarily to attribute the continuous possession of a capacity or ability, meets the objection that retention of a capacity does not imply continuous possession of it. It is commonplace that a person may forget something - suppose he tries on several occasions to bring it to mind and fails - then, suddenly, it comes back to him, he remembers. It does not seem correct to say, as Munsat (1966) [p.25] did, that either the person knows all along (at least in some sense of 'subconscious knowledge') or he does not remember. Neither the Trace Theorists nor those like Squires and Munsat who deny that continuous possession implies a causal connection can admit that the apparent 'gap' is genuine. But the Trace Theorist might surmise that he is better able to explain the distinction between what is stored in a person and what capacities he may demonstrate because of this on some occasions but not on others. This would be a mistake. To suppose that what is continous is some concrete property of the individual's brain does not help us unless it is said in what respect that property was the same. It is not sufficient that it retain the same structural properties and not retain the causal function necessary to produce what Martin & Deutcher call 'acts of remembering' of the same kind.

Metaphors suggesting that the trace was difficult to locate (e.g. 'lodged away in the innermost recesses of one's mind', 'temporally obscured by other things which keep coming to mind') are misleadingly ambiguous. On the one hand they imply that something remains the same, the trace, but, on the other hand, they imply that something has changed, namely, the capacity to remember (e.g. to produce a certain piece of information at will, to tell the joke without being prompted at the punch-line). What the metaphors of searching do is to specify what exactly has been retained. Even taking the metaphors seriously, for a moment, what is retained in memory cannot be an intrinsic structural property of the trace which was lost and found but a dynamic property of what it takes (what cues, what prompts, etc.) to make the trace active in producing the relevant 'act of remembering'.

Squires suggested that the best way to dispel the appearance of a gap in what we know when we suddenly remember something is to start by characterising our correct performances as displays of knowledge, or cognitive ability, rather than as 'acts of memory'. The question about what is remembered is then more clearly seen as a question about which of our present cognitive capacities we have had continuously. It is a question about the history of our cognitive abilities, not about the character or causes of those abilities.

> "The problem can appear insoluble if we begin by calling such things memory acts and then describe them as exercises of the disposition to remember. To appeal beyond the acts themselves seems like explaining house-building as the kind of thing done by house-builders. But [if we do not appeal to capacities beyond the acts] we are forced to discover or invent special features of the memory acts themselves, just as there are special features by which house-building can be distinguished from other activities. No suitable 'defining

> characteristics' are to be found, however, because, unlike such things as house building , we do need to appeal to capacities in explaining remembering, only this is saved from circularity by the fact that the relevant capacities are not initially characterised as capacities to remember" ['Squires (1969) p.186].

When someone does something they were recently unable to do, it may appear as if some ability has reappeared rather than been retained. But this appearance is dispelled when we try to specify more exactly the *difference* between the ability that was lost and the ability presently demonstrated. To borrow Squires example, a teddy-bear may lose his ability to squeak-when-poked during the winter when it is damp but may regain his ability to squeak-when-poked when summer arrives. True, an ability has been lost and regained (Teddy's ability to squeak-when-poked) but there is also an ability which has been possessed continuously, that is, Teddy's ability to squeak-when-poked-during-the-summer. According to Squires, when we say that some action demonstrates memory, we have in mind a more or less precise characterisation of a capacity demonstrated by that action which has been acquired in the past and has never been lost. When we say something is now remembered that was previously forgotten, we mean to qualify the description of the original capacity to exclude what has been lost , we do not mean to say that one and the same capacity has been lost and later recovered; "when we forget something and then remember it, the capacity we lose is not the capacity we keep" [ibid. p.186].

Reference to the continuity of our cognitive capacities often occurs in the context of explaining those capacities. To say that our present capacity has a historical continuity is not to say what the cause of our ability is, but it may often point in the direction of an explanation of how we acquired the ability in the first place. It may well be that there is an inevitable reference to causal

conditions in our explanation of the acquisition of cognitive abilities through learning and experience. However, the fact that 'He remembered . . . ' is often interjected into a causal inquiry does not mean that a causal connection is being cited. Martin & Deutcher supposed that the capacity we retain in memory must have a cause in past *experience*; but, even if the kind of capacity that can be remembered must have a causal explanation, the cause is not an explanation of our remembering the capacity.

8. It is not a sufficient condition of remembering that the dream told have been dreamt during sleep.

What is the relationship between telling a dream one has dreamt and *remembering* it? Is every case of telling a dream dreamt during sleep necessarily a case of remembering? Is every case of being unable to tell a dream one has had a case of forgetting? These questions sharpen the contrast between three different accounts of remembering dreams. The Dispositional Analysis allows that a dream (or fragment of a dream) dreamt during sleep may be told without exercising memory, for it is a necessary condition of remembering a dream that a person could have told that dream if awoken earlier. The Reductive Analysis, as defended by Malcolm, holds that every case of telling a dream is necessarily a case of remembering because here the verb 'to remember' adds nothing to the bare fact that a person awoke with an ability to tell a fictitious story which he did not have when he fell asleep. The Causal Analysis, as defended by Dennett, holds that every case of telling a dream dreamt during sleep is a case of remembering because even the fragment of a dream dreamt immediately before awakening is registered and stored for a moment in a short-term memory system postulated to explain the ('introspective') processes by which what is immediately before one's mind is

normally be expressed. The Dispositional Analysis departs from the Reductive Analysis by implying a causal assumption about a normal process of awakening such that the dream told is explained in terms of events occurring prior to awakening. But where the content of the dream told is determined immediately prior to awakening, there is no account of the ability to tell that dream being retained during sleep. The Causal Analysis proposes to give such an account in terms of a storage model of memory which is supposed to afford sub-behavioural criteria for 'remembering' independently of the retention of an ability to do or say something.

Malcolm (1959)(1963) saw a problem with the idea that telling a dream is a case of 'remembering'. He could not fit telling a dream to the paradigm of 'factual memory' for he saw no account of 'knowing during sleep' which would allow that a person knows the content of his dream upon awakening because he knew it in the past:

> "There is often no doubt that knowledge of a dream is memory, e.g. when one knows that one had a dream last week or last month. But if a person awakened suddenly from sleep and immediately declared that he had a dream, should we call this *remembering* that he has a dream? I am not sure: but if so then this use of "He remembers that p" does not fall under our analysis of factual memory [since we could not determine that he previously knew that he dreamt] . . . Our definition gives a correct account of the central use, but not perhaps of every use of the locution" ['A Definition of Factual Memory', *Knowledge and Certainty* 1963 p.240].

Malcolm's conclusion was that there is no distinction between being able to tell a dream and remembering it, between being unable to to tell a dream one has had and forgetting it. However, the price of this identification of being able to tell a dream dreamt during sleep with remembering it is to allow, as Malcolm

did, that the verb 'to remember' does not apply here in its usual sense. I take the view that to say 'remembering' has a special sense here is in effect the conclusion, explicitly drawn by Squires (1973), that strictly speaking we do not remember a dream told upon first awakening.

It is a tempting to equate the hypothesis that a dream was 'forgotten' from sleep with the hypothesis that a person dreamt a dream during sleep but failed to be aware of it on awakening. One might suppose, for example, that the hypothesis 'Betty forgot her dream about singing in Tosca' is equivalent to the hypothesis 'Betty would have had an awakening impression as if of singing in Tosca if she had not been distracted by Joe's snoring'. But the Dispositional Analysis resists this account of 'forgetting' dreams. It distinguishes the bare proposition that a person was unaware of his dream or failed to tell his dream from the additional proposition that he forgot his dream. The Dispositional Analysis distinguishes between a dream which a person is unable to tell because something in his awakening circumstances detracts from his capacity to judge the matter (e.g. he is distracted) and a dream which a person is unable to tell because he has *forgotten* it.

According to the Dispositional Analysis, the counterfactual statement 'X would have been aware of dream p if awoken in a normal manner (such that peculiarities of the manner of awakening do not explain his apparent memory) and prompted to try to remember events recently witnessed without distraction' is consistent with the proposition that X remembers dream p. On the assumptions that X remembers his dream but failed to tell it, the statement implies that the failure is due to the inappropriateness of the actual circumstances for exercising the capacity he possesses. By contrast, the counterfactual 'X would have been aware of his dream even if awoken in a normal (such that peculiarities of the manner of awakening do not explain his

apparent memory) and prompted to try to remember events recently witnessed without distraction' offers a different kind of explanation of the failure to tell a dream. It asserts that a dreamer would be unable to tell his dream p however ideal the waking circumstances. In other word, it asserts that X fails to tell his dream p because he has lost the capacity to do so, i.e. because he has forgotten his dream p.

Supposing, which Malcolm did not, that 'knowing a dream' during sleep is properly explained as the acquisition of a capacity during sleep to tell a dream upon awakening, a problem remains about accounting as memories cases of telling a dream (or fragment of a dream) dreamt immediately before awakening. A dream (or fragment of a dream) dreamt immediately before awakening is one which one could not have told if awoken a moment earlier. We seem forced to distinguish between cases of telling a dream which exercise an ability retained from moment to moment during sleep and cases of telling a dream which merely exercise an ability acquired and not lost. Is the telling of a dream or fragment of a dream a case of remembering where it is not the exercise of a capacity *retained* during sleep? Where the ability or know-how in question has just been acquired, where no moment has passed in which it could have been lost, should the exercise of that ability be accounted a case of 'remembering'?

Malcolm's response to such questions would probably have been to observe that we ordinarily talk of 'remembering' without excepting cases of dreams dreamt 'immediately before' awakening. We have, on Malcolm's account, no idea of the occurrence of dreams at particular times within a period of sleep. He would take the observation that we do not distinguish dreams according to when they were dreamt within sleep to show that what we ordinarily mean by 'remembering dreams' cannot be accounted for in terms of the retention of an

ability from moment to moment within sleep. But to my mind this response simply begs the question which arises if we suppose dreams to be dreamt at particular times within sleep about whether *retention* (over and above mere *acquisition without loss*) is a necessary condition of remembering. *If* we were to suppose that dreams are dreamt at particular moments during sleep and were to say, as we do, of every particular case of telling a dream that it is 'remembered'; would our saying this show that it is consistent with our general use of the verb 'to remember' that a dream dreamt immediately before is 'remembered'? Or would our saying that dreams are remembered simply imply the hypothesis that most dreams told would have been told if one had been awoken earlier (and that we have no reason to suppose of any particular case that it is an exception)?

9. The usefulness of models of short-term memory in explaining our 'introspective' reports does not show that telling a dream or fragment of a dream dreamt immediately before awakening is remembering.

In the previous chapter, I argued that the Reductive Analysis failed to account for the temporal distinction we commonly draw between dreaming a dream during sleep and telling it upon awakening. Dennett (1976) argued that this was a problem common to any attempt to reduce our 'introspective' reports to dispositions to verbal behaviour. He suggested that the temporal distinction should be understood in terms of the distinction drawn by cognitive psychologists among factors which explain a person's performance between the information stored in a 'memory trace' and the 'prompts' or 'cues' which activate it. The temporal location of dream is given by the 'laying down' of the appropriate 'memory trace'. This seems to afford Dennett a neat account of the connection between what it is for a dream told to have been dreamt during sleep

and what it is for the telling of a dream dreamt immediately before awakening to be remembered. The dreaming of a dream is the occurrence of some brain process the normal function of which is identified according to some model of short-term memory as the 'laying down of a trace'; the telling of a dream is a case of remembering where it is explained in terms of brain processes the normal functions of which are identified by a model of short-term memory, the processes of awakening corresponding to 'prompts' or 'cues'. In short, a dream is dreamt during sleep and remembered upon immediate awakening where it's telling is explained by an information processing model of short-term memory.

The problem of accounting a case of telling a dream an exercise of memory without implying that there was some previous occasion upon which a person would have told the same story if awoken is one which preoccupied Dennett (1976). Dennett sees ordinary talk about the mind as justified where it succeeds in charting the acquisition, loss and retention of the behavioural dispositions of rational agents. But where no such account can be given of folkpsychology as an Intentional System Theory it should be critically judged as an attempt at sub-personal Cognitive Science, a speculation about the internal process which produce our dispositions to behaviour.

Dennett regards 'telling a dream' as a phenomenon which illuminates a common feature of our everyday claims to 'introspective' knowledge. On Dennett's view, a person's assertions about what he immediately seems to see, what he feels, thinks, intends and so on do not readily reduce to self-attributions of behavioural dispositions. In common with narratives of dreams, our 'introspective reports' imply a distinction between what we actually say and why we say it, as if there were grounds for one's judgment accessible only to oneself. Dennett regards our self-expressions in the present tense, like our narratives of dreams in the past tense, as putative claims to knowledge

acquired prior to its earliest possible expression, claims which cannot be accounted for in terms of the retention of behavioural capacities which might have been previously exercised.

Dennett views what he calls Malcolm's 'criteriological move' as premature: the conclusion that our narratives of dreams in particular, or self-expressions generally, are answerable to nothing which can be discovered in a person's past behaviour or 'consciousness' should be reached only after it has been decided by reference to scientific theories and evidence whether they have any justification as descriptions of the internal processes which normally cause us to express them. He attempts to show that a temporal distinction between what we say about ourselves and the grounds of our saying it may be justified in terms of an information processing theory attributing representational properties to structures in the brain. The identification of the cause of our self-expressions as 'memory traces' according to a cognitivist theory of short-term memory would, Dennett suggests, justify our implication that we say what we do because it corresponds to something which has happened inside us. Our commonplace conviction that dreams are remembered is to be understood, according to Dennett, as an assertion of the Causal Hypothesis, that telling a dream is produced by internal processes similar to those which mediate (at least in the short term) between the registration of a sensory stimulus and the exercise of an ability to say what was perceived. What Dennett seems to have in mind is that, if a person's awakening capacity to tell a dream can be explained by analogy with the sort of 'sensory stores' postulated by cognitive psychologists to explain the role of cues given immediately after an item is momentarily flashed upon the screen in determining what a person is able to say about what was on the screen, then his capacity to tell a dream may

be accounted a capacity to remember, notwithstanding that the dream told would not have been told if he'd been awoken at an earlier time.

I have agreed with Dennett that Malcolm's account of the temporal location of dreaming is one that should not be reached without reference to scientific research. I am also persuaded that the only kind of research in view which might show that dreams are dreamt or occur during sleep is tied to the analogy between telling a dream and remembering events witnessed drawn by the Causal Hypothesis. If you twisted my arm (really hard) I'd probably accept that postulation of 'memory traces' and other internal representations is unavoidable in establishing systematic inferences from brain processes in sleep to what a person is disposed to say if awoken. However, it seems to me that the germ of Dennett's account of remembering dreams is the idea that it is a sufficient condition of remembering that there be a temporal distinction between the dreaming of a dream (whether or not characterised as 'laying down a memory trace') and the telling of a dream. This is to say that, if a person is asked to say what he thinks and his reply is determined by processes occurring prior to the prompt (perhaps characterised as 'laying down a memory trace') rather than by variables introduced by the prompt, it is correct to say that he 'remembers'.

Dennett intended to blur the distinction we ordinarily draw between being able to say what was immediately going through one's mind and *remembering*. His point was to emphasise that our 'introspective' capacity to say what was immediately going through our minds is fallible and open to scientific criticism. I think it is possible to agree with Dennett on this point, but to resist his assimilation of saying what was immediately before one's mind and 'remembering' in its everyday sense. When we say a person remembers what

was on his mind we ordinarily imply that, if he had been asked sometime earlier, he could have told us then what he tells us now.

10. It is not a necessary condition of remembering that the knowledge or ability exercised was previously acquired 'through experience'.

Putnam (1961) and Chihara & Fodor (1967) put forward a Causal Analysis of 'remembering dreams' in response to Malcolm's argument that the Received Opinion is an untestable hypothesis (and therefore cannot be implicit in ordinary language). Their suggestion was that the Received Opinion, the hypothesis that in telling a dream we remember perceptions, thoughts, sensations, etc. from sleep, could be confirmed by the discovery that the internal causes of 'telling a dream' (dreaming) are brain processes which, if they were to occur when a person is awake, would have causes and effects, in relation to stimulus and behaviour, typical of perceptions, thoughts, sensations, etc. Dennett's (1976) paper "Is Dreaming an Experience?" may be regarded as an attempt to head off a certain kind of objection to Causal Analysis of remembering dreams. The objection to the Causal Analysis anticipated by Dennett is that scientific justification of the Causal Hypothesis would not amount to a vindication of the Received Opinion. For, the objection goes, the discovery that the retention or loss of our awakening dispositions to 'tell a dream' (if prompted, etc.) has the same internal explanation as the retention or loss of our dispositions to 'say what one perceived' (if prompted, etc.) leaves open a question about whether the disposition to tell a story was acquired *through experience*. And it is an essential claim of the Received Opinion that dreaming is an 'experience' akin to perception.

Dennett sees that the phrase 'through experience' must add some substantial and testable qualification to the requirement that what is

remembered must be knowledge previously acquired. I take his point to be that folkpsychology, lacking empirical evidence about our internal mechanisms, fails to supply an adequate explanation of what it is for our verbal dispositions to first person psychological sentences to be acquired 'through experience', and that the task (which may prove not to be very important or worthwhile) falls to sub-behavioural scientific psychology. If, according to such a theory, dreaming turns out to be an 'experience', that conclusion would be a new discovery; it would not be a confirmation of a conviction for which we have any pre-scientific justification. Nothing we already know - nothing stemming from the undoubted success of folk psychology in predicting behaviour - gives us any reason to be confident that dreams are experiences, or even that a notion of 'experience' will have any useful place in sub-behavioural cognitive science.

Dennett regards dreaming as a phenomenon which illustrates a general problem for philosophical attempts to analyse experience in terms of dispositions to utter first person psychological sentences. Dennett is sympathetic to these attempts as an alternative to the Cartesian mythology of infallible introspection. But he sees that it is a feature of our ordinary notion of experience that what we experience outstrips our capacity to currently say what we are aware of. A person can say retrospectively what he was aware of even though he could not have told us about them at the time. If so, there must be some criteria which can establish that a person remembers p prior to it being inferred from this fact that he experienced p.

In 'Towards A Cognitive Theory of Consciousness' [BS. Ch.9] Dennett sketched an outline of the kinds of 'functional saliencies' which any plausible theory of experience would have to integrate. His claim was that the postulation of three distinct sub-personal agencies (a Public Relations, a Buffer Memory and a Control Humunculus) and of certain Computer Access Relations

between them (subject to selective bias, interpretation, inference or censorship) may provide the means to justify what is worthwhile in our pre-scientific intuitions about the 'Personal Access' we have to our inner selves. Dennett suggested that Cognitive Science may accommodate the folk psychological hypotheses that one experiences more at any time than one is currently able to say on the assumption that "the content of one's experience includes whatever enters (by normal routes) of information the buffer memory M" [BS. p.169].

This "theoretically promising adjustment in our ordinary concepts" [BS. p.145] would allow that what we experience is an objective fact logically independent of the content of the first person past tense psychological sentences we are now disposed to utter, even where nothing in our past behaviour could show us to have misremembered or forgotten. It would also mean that whilst, trivially, what we actually say (barring insincerity, slips of the tongue or misunderstanding the words chosen) constitutes what we mean to say - "cannot fail to do justice to the [personal] access we have to our own inner lives " [BS. p.171] - a person has no special access to the causal grounds of his publicly evident avowals of semantic intent. You may say what you want to say, but have no privileged authority as to *why* you want to say what you say.

The problem about identifying dreaming with entry into Buffer Memory is that it does not distinguish between the content of:

seeming to see, thinking, imagining (p), and

dreaming (seeming to see, thinking, imagining p).

The question about whether dreaming is an experience is inextricable from the question as to whether dreams are identical with perceptions, thoughts images, or some such mental phenomenon occurring in waking life. If, on Dennett's account, the content of a dream is just that given by the normal causal role of an item in Buffer Memory, then the content of a dream is not adequately identified

with perceptions, thoughts, etc. That identification must depend upon the causal role of the brain token entering into Buffer Memory in producing *concurrent* dispositions to behaviour. Hence, as discussed in Chapter Four ("'Perceptions' During Sleep"), Dennett proposed that the question about whether dreaming is an experience must be decided, in part, according to the *peripheral* physiology of StageREM sleep.

Thus Dennett attempted to strike a balance between the notion that what we experience can outstrip our capacities for concurrent self-expression and the notion that there is more to self-consciousness than subliminal registration of stimuli in information processing stores (e.g. the Buffer Memory). I disagree with Dennett that it is necessary to give an account of dreaming as an 'experience'. (If it were, I fear that Dennett's functionalist substitutes for Cartesian notions of 'inner awareness' fail to meet that necessity.) But I do allow that it would be an objection to our conviction that dreams are remembered from sleep if there were no clear temporal distinction between what we actually say and why we say it. Whether or not there is such a temporal distinction might well turn upon the question about whether normal processes of telling a dream (or fragment of a dream) dreamt immediately before awakening can be accounted for by an information processing model of short-term memory. But the use of the term 'memory' in connection with such models should be distinguished from our everyday notion of short-term memory (i.e. the retention of a capacity beyond the moment at which its first exercise could have been prompted).

CONCLUSION

A TRUTH OF UNDERWHELMING UNIMPORTANCE?

1. Summary of Argument

In the Introduction, I offered a Scheme of Argument. I'll re-print it here, and then give a summary of what I hope I've done chapter by chapter. The arrangement of chapters does not fit exactly with the Scheme of Argument. But it should be clear enough to the reader how the Scheme of Argument has been filled out:

SCHEME OF ARGUMENT (Re-Printed from Introduction)

1. It is preferable that our conviction that dreams are dreamt during sleep and remembered or forgotten upon awakening be taken as a speculative hypothesis yet to be confirmed or disconfirmed by future scientific research than that it be taken to be an hypothesis for which we already have sufficient evidence, where what evidence we already have, if sufficient to pass judgment, would render our conviction false.

2. The Received Opinion that dreams are perceptions, thoughts, images, or some such mental acts or events occurring during sleep is false judged by what we already know about sleeping and waking, and we know pretty much all about sleeping and waking that is relevant.

3. It is preferable that our conviction that dreams are dreamt during sleep and remembered or forgotten upon awakening be understood as a speculative hypothesis open to future scientific investigation than that it be 'saved' from possible disconfirmation by being rendered empirically empty.

4. According to the Reductive Analysis, to say that a person 'remembers' a dream from sleep does not strictly speaking imply that he remembers anything; it is simply a metaphorical way of saying that he has an apparent memory of events upon awakening which is not a memory of waking life.

5. The Causal Hypothesis, that 'telling a dream' is typically caused by brain processes similar to those which explain a witnesses' report of what he recently saw and did, is a speculation one might reasonably make in virtue of the programme of scientific research suggested by it, though we are not entitled to assert it with any confidence on the basis of evidence presently available.

6. It is better that our conviction that dreams are remembered from sleep be taken to imply the Causal Hypothesis than it be taken to imply the Received Opinion.

7. It is better that our conviction that dreams are remembered from sleep be taken to imply the Causal Hypothesis than that it be rendered trivially true by the Reductive Analysis.

8. Scientific confirmation of the Causal Hypothesis would not confirm the Received Opinion; at most it would show that our dispositions to apparent memories if awoken are acquired and retained with an order, pace and duration analogous to the acquisition and retention of a witness's ability to report events perceived.

9. Additional confirmation of the Representational Hypothesis, that a person's description of his dreams corresponds to a brain structure realised during sleep in virtue of common representational qualities, would not confirm the Received Opinion for it is neither a necessary nor a sufficient condition of 'remembering' in everyday discourse that a person's words or actions correspond to some structure in his brain process in virtue of its representational qualities; it would not show that a person knew (was aware of, conscious of, experienced,

or represented to himself) his brain structure under the interpretation given to it by cognitive scientists.

10. Scientific confirmation of the Causal Hypothesis *would* show that something, namely, the ability to tell a dream, is remembered from sleep; for it is a sufficient condition of 'remembering' in everyday discourse that a person exhibit a know-how previously acquired and not lost.

11. Our conviction that dreams are dreamt during sleep and remembered or forgotten upon awakening is best understood as the speculative hypothesis that 'telling a dream' is typically the exercise of a capacity acquired and retained during sleep to tell a story without invention or inference as if of events witnessed and deeds done (no matter how improbable or impossible), a story which is not a memory of waking life and need not be a memory of occurrences during sleep.

In Part One ("What Appears to be Remembered") I argued that the Received Opinion is false. In telling a dream a person is not typically remembering events, actions, processes or anything else which happened during sleep. The relevant evidence is provided by familiar everyday observations about what people appear to remember upon awakening and about what happened whilst they slept, rather than by formal scientific investigation. In Chapter one ("Events Witnessed and Deeds Done"), I argued that sober reflection on what we already know shows that, in 'telling a dream', a person usually does not remember perceptions and actions from sleep. I argued that popular faith in the Received Opinion relies upon an unwarranted inference from an incontestable premise (that, in 'telling a dream', a person typically awakes with a vivid impression as if of events witnessed and deeds done but does not remember anything from waking life) to a doubtful conclusion (that, in

'telling a dream', a person typically remembers what, during sleep, he seemed to see and tried to do). I argued that consistent application of the reasons why we suppose that a person is not remembering what he seemed to see or tried to do *whilst awake* conclusively settles that, in 'telling a dream', a person typically does not remember what, during sleep he seemed to see or tried to do.

In Chapter Two, I argued that the introspective model of imagination and other 'items of consciousness' cannot account for our apparent knowledge of the characters, objects and events of a dream. The ability to tell a dream cannot be reduced to memory of thoughts and intentions directed towards images. Even if a person telling a dream did remember thoughts and images from sleep, the ostensible content of a typical dream narrative is too unlike a series of mere thoughts and images to bear identification. My conclusion from Part One (What Appears To Be Remembered) was not merely that there is no general account of what dreaming consist in, as if the fact that we do not remember illusory perceptions, thoughts or images shows that we do remember something else, some irreducible mental activity. My conclusion was that when we 'remember dreams' we generally remember nothing of what happened during sleep.

In Part Two ("Scientific Studies of Sleep and Dreaming"), I argued that experimental sleep research is consistent with the conclusion that a person telling a dream is typically not remembering mental acts, events, states or processes from sleep. In Chapter Three ("'Actions' During Sleep"), I allowed that the scientific study of sleep might have shown that in some special cases (e.g. sleepwalking, sleeptalking, night terrors, prearranged 'signalling' from sleep) a person remembers actions or events from sleep. But the evidence turned out to show that even in the cases of sleeptalking and lucid dreaming, where there is some association between the story a person tells upon awakening and

what he was observed to do or say during sleep, the disassociations are sufficient to render doubtful the hypothesis that a person was expressing during sleep thoughts and intentions about what he seemed to perceive or what he imagined. This conclusion was not an objection to the endeavours of researchers in the field. For the truth or falsity of the Received Opinion turned out to be inessential either to 'cognition' inferred according to Arkin's information processing model of sleeptalking or to 'imagination' inferred according to LaBerge's physiological model of lucid dreaming.

In Chapter Four ("'Perceptions During Sleep"), I argued that neither evidence of physiological activity peripheral to the central nervous system (e.g. eye movements, muscular twitches, penes erections, etc.) interpreted as 'covert behaviour' during sleep, nor evidence of neurological activity of the forebrain interpreted as critical responses to internally generated 'stimuli' supports the Received Opinion. I made an effort, following Putnam (1962a), Squires (1973) and Dennett (1976) to clarify to the sort of psycho-physiological correlations that the would-be defender of the Received Opinion (unimpressed by the arguments of Chapters One and Two) might hope to find. But my primary aim was not to suggest that the scientific hypothesis that dreaming is a 'perceptual activity', construed as a defense of the Received Opinion, is experimentally false. For the point of experimental research is not to justify the Received Opinion. My primary aim was to show that the scientific talk of dreaming as an 'experience' akin to perception or vivid imagination has a significance quite apart from the truth or falsity of the Received Opinion.

The scientific hypothesis that StageREM sleep is a period of 'perceptual activity' should not be confused with the hypothesis that a person's awakening narrative is a memory of what during sleep he perceived or seemed to perceive. On my account, it is reasonable for scientists to suppose that, at some level of

'centrality', there is a similarity between the causal explanation of telling a dream and of reporting events witnessed. The scientific hypothesis that StageREM is a period of 'perceptual activity' should be understood metaphorically to assert such a causal analogy. Admittedly, scientist's often talk as if the demonstration that the physiology of StageREM sleep is remarkably akin to the physiology underlying waking perception shows more than just that. They often talk as if, in addition, it shows that the person's awakening 'report' of a dream was, after all, 'correct'. This is to confuse the experimental plausibility of the Causal Hypothesis with contentious philosophical claims about the reference of first person psychological sentences.

In Part Three ("The Dispositional Analysis") I questioned the implications of the conclusion that the Received Opinion is false. The conclusion I drew from the empirical fact that, in telling dreams, a person does not generally remember anything of which he was aware whilst asleep is that a dream is best regarded as the content of a certain kind of fictitious story a person is able to tell without invention or inference, as if he were remembering events witnessed and deeds done (no matter how incredible or unimaginable), where he is not remembering waking episodes and whether or not he is remembering something of what happened during sleep. This conclusion is not new. It was drawn by Malcolm (1959) and by Squires (1973). Malcolm's conclusion was that the concept of dreaming is not a theoretical concept referring to something which explains our awakening impressions; it is an analytic truth that dreams are what we appear to remember upon awakening where we are not remembering. Squires, as I read him, concluded that dreaming is a bad theoretical concept; that, strictly speaking, there are no dreams; and that if talk of 'remembering dreams' is to reasonably survive the discovery that the Received Opinion is false, it should

be purged of its empirical assumptions. The conclusion I drew, in disagreement with Malcolm, was that our conviction that dreams are dreamt during sleep and remembered or forgotten upon awakening is a theoretical hypothesis open to scientific investigation. But, in disagreement with Squires, I argued that it is an hypothesis which survives the falsification of the Received Opinion.

In Chapter Five ("Dreaming Without Experience"), I argued that the Reductive Analysis is, in itself, an incomplete account of the ordinary concept of dreaming for it gives no account of talk about dreams being dreamt during sleep. I defended the Dispositional Analysis as an elaboration of the Reductive Analysis. It retains the identification of the content of a person's dream with the content of his apparent memory on awakening, where he is questioned or otherwise prompted to try to remember events recently witnessed and is not distracted but adds to the Reductive Analysis an account of what it is for a dream to be dreamt at a particular time within a period of sleep. According to the Dispositional Analysis, our conviction that dreams are dreamt during sleep, that dreams are uniquely identifiable by the dreamer and time dreamt, implies the assumption that what dream a person would tell 'if awoken' is determined prior to and independently of the contingencies of the process of awakening. The Dispositional Analysis offers an account of the dreaming or 'occurrence' of a dream as the acquisition of a disposition to appear to remember events, if awoken in a manner which is both normal and has no significant effect upon what a person appears to remember, where he is questioned or otherwise prompted to try to remember events recently witnessed (no matter how incredible or unimaginable) and not distracted.

In Chapter Six, I argued that assumptions about the causal explanation of telling a dream whilst central to our talk about dreams being dreamt or occurring during sleep could not explain our commonplace conviction that dreams

are remembered or forgotten during sleep. Ordinary talk of remembering and forgetting not a does not aim to give a causal explanation of our abilities; it intends only to give a historical profile of the retention and loss of our abilities. If scientific talk of 'remembering dreams' is taken to be equivalent to the Causal Hypothesis then, like scientific talk of dreaming being a 'perceptual activity', its significance should be regarded as strictly metaphorical. But it is possible to take such talk literally. For scientific research centred around the Causal Hypothesis may be taken to presuppose the Dispositional Hypothesis that telling a dream is typically the exercise of an ability retained from moment to moment within sleep. It seems to me an advantage to construe scientific talk of remembering dreams consistently with the everyday use of the verb 'to remember'.

In Chapter Six, I resisted Dennett's (1976) suggestion that there is a notion of 'remembering dreams' which does not imply that a dream remembered upon awakening is one which the dreamer could have told if he had been awoken earlier. I took his idea to be that, where the determination of the content of a person's dream prior to awakening is explained by an information processing model of short-term memory, the fact that a dream told was dreamt during sleep is a sufficient condition of its being remembered. In resistance to Dennett's suggestion, I argued that a causal-cum-representational analysis of remembering dreams does not escape the need to distinguish between the everyday notion of memory appropriate to *retaining* an ability to tell a dream and a technical notion of storage in short-term 'memory'.

2. Reflections upon the Conclusion

I have defended the conclusion that our commonplace conviction that dreams are dreamt during sleep and remembered or forgotten upon waking is, at best, a

speculative hypothesis open to a very reasonable scepticism. Is not this conclusion outrageous? How could it be doubted that dreams are remembered from sleep? Is it not a fundamental feature of our notion of a person and of the mental attributes which define him that he has a unique capacity to remember what he seemed to see, tried to do, imagined, felt, and so on, in the recent past? If a person's knowledge of his dreams is not safe, what is?

Let us distinguish between the appearance of confident recollection and the substantive content of our conviction. The appearance of confident recollection stems from the fact that telling a dream is a remarkable phenomenon in which words and images come to us as if we were remembering recent adventures. That telling a dream is, in many respects, 'like' remembering recent perceptions, thoughts, images, and so on, is not in doubt. It is not suggested that a dreamer 'makes up' the story he tells upon awakening, that he is insincere, that he is careless, that he exaggerates, or any such thing. His confidence in expressing what appears to have happened is a natural feature of telling a dream. That is what it is like for him. Questioning this appearance of confident recollection would be as absurd as questioning a person's sincere and confident judgment that this book has the same colour as that book.

What is in doubt is whether the confident appearance of recollection has any grounds, whether it is true according to its correspondence with something not given with the awakening phenomenon of telling a dream. The recognition that it does not should leave us in a position where any substantive content one can plausibly imply into the rhetoric of recollection is a *bonus*. The Dispositional Analysis does not detract anything from the confident appearance of recollection. It does not imply that we should stop telling dreams or that we should express ourselves more modestly. Here is philosophy, not taking away or reducing what we all thought we knew for sure,

but giving more substance and plausibility to our ordinary convictions than they probably deserve!

Following Dennett (1976) I have tried to show that the conclusion that nothing is remembered from sleep cannot be avoided either by a Cartesian mythology of infallible introspection or by Malcolm's (1959) insistence that the relationship between 'telling a dream' and remembering a dream is logical. Instead, I have suggested that the conclusion can be avoided (or at least mitigated) by an alternative account of our awakening certainty that something is remembered: what I cannot doubt when telling a dream is that the story we are able to tell without inference or invention is one we could have told if awoken at some time sooner. That there is a unreasonable gap between the confidence of our awakening conviction and the grounds we have for it is not an objection to my analysis unless some better account of our conviction that dreams are dreamt during sleep can be given. My argument has been that neither the Reductive Analysis nor the Causal Analysis provide a better alternative to the Received Opinion than does the Dispositional Analysis. In particular, the Causal Analysis which has received most support from contemporary analytic philosophers reacting against Malcolm's attack on the Received Opinion, has no advantage over the Dispositional Analysis in justifying the *confidence* of our awakening conviction that something is remembered.

Strictly speaking, the Dispositional Hypothesis, that telling a dream is typically the exercise of a disposition acquired during sleep and not lost, is not equivalent to the Causal Hypothesis. But it remains that the only kind of systematic 'do-able' experimental work in view is tied to the analogy between dreaming and waking perception, and that other possible means of charting the acquisition, retention and loss of dispositions to tell dreams are undirected stabs in the dark. For a brief period, in the late fifties and early sixties, it looked as

if psycho-physiological research was beginning to establish correlations of some specificity between types of physiological phenomenon and types of dream narratives a person would tell if immediately awoken. Sadly, as observed in Chapters Three and Four the promise of a theory enabling us to infer from observations of sleep the acquisition of a disposition to tell a certain kind of dream has gone unfulfilled. A pessimistic view of the ability of psycho-physiological research to justify our conviction that dreams are remembered from sleep might lead one to reflect that, perhaps, our ordinary convictions about dreaming are, after all, idle speculations incapable of guiding a systematic research programme. But, if that were the case, it seems to me that the Dispositional Analysis would have no advantage over the Reductive Analysis of 'remembering dreams'. If our conviction that dreams are dreamt during sleep and remembered or forgotten were merely an idle speculation, detached from scientific research, there would be nothing in our use of the verb 'to dream' to distinguish it from a merely metaphorical manner of saying that telling a dream is very much like remembering events witnessed, except, that is, in regard to whether anything is actually remembered.

Perhaps I should have been content to stop with Squires at the point of recognising that the Received Opinion is a bogus attempt to explain and justify our natural inclination to tell a story as if of events past:

> "But in the dark hour's of the morning, when the perfumes of the night are in one's nostrils or the flesh creeps at the thought of terrors past, how absurd it seems to deny that something is remembered! It is the magic of this primitive certainty that sustains the scotched myths; not laboratory evidence, reflection upon unusual occurrences or even grammatical illusions. In the cold light of day, perhaps we should also wake up to the fact that this spell-binding certainty only shows what it shows: that we sometimes wake up with apparent memories.

> But could the rest be dogmatism about slumber? Have we been dreaming?" [Squires (1973)]

Perhaps all that should be said is that the Received Opinion is false. After all, as Dennett observed:

> " . . . one needn't always counter a theory with a *theory*. Hoaxism is a worthy opponent of the most elaborate theory of clairvoyance, and it consists of but a single statement, supported, of course, by a good deal of sleuthing." [Dennett (1978) p.xi]

By offering the Dispositional Analysis as an alternative to the Received Opinion (or perhaps just a dull substitute for it!) I seem to have committed that sin against which Malcolm repeatedly warned, namely, the sin of looking everywhere for explanations and justifications.

Wright, struggling to reconcile Wittgenstein's critical insights with a more positive account of folk psychology as a rationalising predictive theory along the lines proposed by Davidson and Dennett, expresses a familiar feeling of being crushed between silence and nonsense:

> "[T]he situation can seem intensely unsatisfying. The philosophical consciousness abhors a vacuum. If the model of the inward-looking observation statement fails, must there not be something better with which to replace it?
>
> . . . Why should self-knowledge, and the language game in which we express it, allow of illuminating comparison, if not with reports of observation, then with anything else? Yet the sorts of account which can seem to be needed could only consist ultimately in such a comparison." [Wright (1991) pp.146-147]

Could it be that I (a failed Wittgensteinian) am forced to turn to Fodor for reassurance? "Explanations are a Good Thing!", I can hear him saying, "A theoretical account of our ordinary convictions which is coherent and not plainly false is better than nothing!"

But oh! how dull and technical is the account I have given of what we commonly believe ourselves to be doing when we tell a dream: "Exercising a disposition to tell a fictitious story acquired and retained during sleep!" How could *that* be what we undoubtingly believe? What a ridiculous suggestion! Isn't it better to plainly insist that telling a dream is *magic*? For when one tells a dream it is:

> "... as if a snapshot of the whole scene had been taken, but only a few scattered details of it were to be seen: here a hand, there a bit of face, or a hat - the rest is dark. And now it is as if we knew quite certainly what the whole picture represented. As if I could read the darkness." [Philosophical Investigations s.635]

3. An Open Question: Are dreams dreamt during sleep and remembered or forgotten upon awakening?

The truth of our conviction that dreams are dreamt during sleep and remembered or forgotten upon awakening is most clearly seen to be at issue in arguments over Globot's Hypothesis that dreams are dreamt during the process of awakening immediately before being 'recalled'. The clearest rival to Globot's Hypothesis is the view that dreams are dreamt during sleep with an order, pace and duration comparable to waking perception or imagination. In these final pages, I mean to suggest that the issue between these rivals remains a 'meaty' bone of scientific contention. Despite the abandonment by contemporary psycho-physiologists of any general ambition to chart content-specific indexes of dreaming, the issue between Globot's Hypotheses and its rival remains amenable to experimental evidence and theoretical debate.

Anything worth calling a 'theory of dreams' must provide a systematic explanation of the sources, the materials and narrative structure of our dreams.

This much is not at issue between those who take the dream to be the content of a person's awakening impression and those who assume the dream to be a 'presentation' occurring during sleep. The urge to construct such a theory is encouraged by the ancient belief that a person's dreams contain important information, particularly about himself, which is more or less explicit in his awakening narrative. The fact that dreams are remarkable imaginative creations full of invention and symbolism far in excess of our everyday waking abilities, together with the fact that dreams are generally full of surprises and suspense beyond our will, naturally suggests that they originate in a source 'external' to the conscious mind of the dreamer, a source having creative and insightful intelligence of a peculiar kind but no less powerful and sophisticated than that consciously exercised by us in waking life. The seminal questions about the causal explanation of dreams can be posed and answered without supposing that the dreamer does anything whilst asleep. Once this is recognised, the question about whether or not the dreamer is simultaneously conscious of some by-product of the processes whereby he is able to tell a marvellous story upon awakening become relatively uninteresting.

The question about whether dreams are dreamt or 'occur' during sleep can be seen as a question about what Dennett (1976) called the 'composition' process by which we acquire the ability to tell a fictitious story upon awakening. Freud famously argued that an adequate account of the sources of dreams could not be given in terms of the physiological registration of stimuli during sleep. But Freud accepted the standard view that associations between events in the sleeper's environment and the dreams he tells establish a temporal location to the composition process whereby disturbing intrusions are symbolically incorporated into dream in order to 'guard sleep'. On this assumption, the phenomenon of associations between dreams and events initiating or

contemporary with the process of awakening creates a problem for the hypothesis that dreams are dreamt during sleep.

Freud discussed the idea that dreams are sometimes composed very quickly on arousal and then remembered as if they had taken much longer time to go through during sleep in The Interpretation of Dreams at pp.87, 131 & 636-8. He referred to an already vast nineteenth century literature on the topic and offered his own hypothesis that dreams are sometimes ancient fantasies stored in the memory and 'triggered' upon awakening. A dream reported by Maury, a 19th century French psychologist, was already famous when Freud came to discuss it. Maury's lengthy and coherent dream culminated in his being guillotined. He awoke to find that the bedhead had fallen and struck him across the back of his neck. The awakening stimulus apparently determined the final event of his dream. And yet the narrative of the dream led so naturally to this conclusion, that is would seem mere prejudice to insist that the awakening stimulus was incorporated into a dream which was already completed up to its penultimate details. Maury supposed that the arousing stimulus initiated the composition of the dream which was then 'dreamt' (both the composition and the 'dreaming' occurring at a very rapid pace, almost instantaneously) immediately prior to being 'recollected' as if it had taken much longer than it had. Maury's explanation of his dream attracted a great deal of critical attention in its time and the phenomenon fascinated Freud.

On the assumption that dreaming is an 'experience' akin to perception or imagination, it is not surprising that Maury's critics were perplexed by the hypothesis that we experience the dream at an accelerated rate prior to 'remembering' it. But what Freud found equally puzzling was the idea that the unconscious or subconscious composition process should be able to achieve such marvellous 'dream-work' in so short a space of time:

> "We should never dare to attribute such rapidity to thought-activity in waking life, and we should therefore be driven to conclude that the dream-work possesses the advantage of accelerating our thought-processes to a remarkable degree" [ibid. p.637].

The problem between Maury and his critics arose over the implied pace at which the composed dream was 'presented' or 'gone through' by the dreamer prior to recollection. Freud saw no problem in dispensing with this problematic element in the explanation of 'remembering' an arousal dream: "it is not necessary that [the dream] should have been gone through during sleep" [ibid. p.638/9]. He hypothesized an alternative explanation which eliminated the quasi-perceptual presentation process prior to 'remembering'. Freud supposed that the awakening stimuli, rather than initiate an elaborate composition process on the spot (with or without a simultaneous presentation to the sleeping or half-sleeping mind) might trigger a ready-made phantasy stored in the mind which is then 'remembered' as if it had been experienced during sleep.

> "Is it so highly improbable that Maury's dream represents a phantasy which has been stored ready-made in his memory for many years and which was aroused - or would I say 'alluded to' - at the moment at which he became aware of the stimulus which awoke him? If this were so we should have escaped the difficulty of understanding how such a long story with all its details could have been composed in the extremely short period of time which was at the dreamers [sic. emphasis added] disposal - for the story would have been composed already" [The Interpretation of Dreams p.637].

In effect, Freud re-set the problem raised by Maury's dream as a problem about the pace and duration of a non-conscious cerebral process which causally explains the manifest content of the stories we have to tell upon awakening.

The theoretical problem need not concern the nature of any supposed 'presentation' process intervening between composition and 'recollection':

> "It is not necessary that [the composed] phantasy should have been gone through during sleep; it would have been sufficient for it merely to be touched on. What I mean is this. If a few bars of music are played and someone comments that it is from Mozart's Figaro (as it happens Don Giovanni) a number of recollections are roused in me all at once, none of which can enter my consciousness singly at the first moment. The key phrase serves as a port of entry through which the whole network is simultaneously put in a state of excitation. It may be the same in the case of unconscious thinking. The rousing stimulus excites the psychical port of entry which allows access to the whole guillotine phantasy. But the phantasy is not gone through during sleep but only in the recollection of the sleeper after his awakening. After waking he remembers in all its the details the phantasy which was stirred up as a whole in his dream. One has no means of assuring oneself in such a case that one is really remembering something one has dreamt . . . " [ibid. p.638].

Mullane (1983) cited Freud's reaction to Maury's dream as a clear illustration of how thoroughly Freud was mislead by thinking "even metaphorically or anthropomorphically of unconscious thinking as a non-conscious replica of conscious thinking"[p.193]. Mullane thought that the hypothesis of an ancient phantasy stored away for many years is far-fetched, and that Freud would have seen this if he have properly distinguished between the properties of the unconscious processes which explain our mental life and the properties of the conscious, reasoning activities of people. He took it to be symptomatic of Freud's homuncularism that the 'labours' of dream-work must take the dreamer (or rather the 'ego') much time and bother. If Mullane's criticism is well-directed then once Freud had allowed that there is no

necessity that the phantasy, triggered on awakening, be 'gone through' prior to it being 'remembered', then there is no reason why he should prefer the hypothesis that the phantasy had lain in memory for some years to the hypothesis that the dream had been composed in the moment of awakening immediately prior to being 'remembered'. But Mullaine's criticism of Freud does not seem entirely justified to me. If one is looking for cerebral processes producing impressions as if of recent perceptions, it is plausible to suppose that the appropriate mechanisms are pretty much those which normally operate to produce memories of what one recently perceived. On this plausible supposition we might share Freud's unwillingness to hypothesis that the composition process might create in a flash the kind of complex narrative exemplified by Maury's dream. Thus, the most plausible explanation of the hypothesis that dreams are *normally* dreamt during sleep (that telling a dream is caused by processes analogous to those underlying perceptual memory) itself leads one to postulate something like Freud's stored phantasy or Dennett's (1976) Cassette Theory to explain phenomena akin to Maury's dream.

I discussed in Chapter Four ("'Perceptions' During Sleep"),the use of such associations by Dement & Kleitman (1956) and other researchers to show that dreams are dreamt during sleep with a pace and duration comparable to waking perception or imagination. In an interesting paper, Hall (1981), a respected if iconoclastic sleep researcher, argued that the methodology of 'dating' a dream according its association with events in the environment of the dreamer of which he might be 'subliminaly' aware, can be experimentally applied in defence of Globot's Hypothesis. Hall argued that there is evidence that events happening around us as we awake have a formative effect upon the dreams we tell. Hall argued, in addition, that an investigation of the morning habits and concerns of individuals discovered strong associations between that

individual's dreams and what might be supposed to be on his mind as he awakens. My point is not to criticise or approve Hall's argument. I cite it as an example of how, according to the Dispositional Analysis, our ordinary assumption that dreams occur during sleep may be called in question by scientific research. Zuger (1966) provides another paper from the scientific literature suggesting evidence against the assumption that 'dreams' are dreamt during sleep. Zuger's proposal was that it may be useful to distinguish between dreams we could have told upon first awakening and 'dreams' that occur later in the day, possibly in response to some waking situation which 'triggers' an apparition of memory. Some of what we call 'dreams' may, Zuger argued, deserve an explanation akin to that fitting *deja vu.*

Giora (1973) pointed out a connection between evidence relevant to Globot's Hypothesis that "a dream is an awakening that is beginning" and evidence relevant to the hypothesis advanced by Goodenough & Koulack (1976) and other modern researchers that dreams are remembered or forgotten according to a consolidation process *activated upon arousal.* A major problem for any theory which takes a person's disposition to tell a dream if awoken to show that he has dreamt is to explain why dreams are so readily forgotten. There is, as Goodenough (1978) explained, a huge discrepancy between the frequent and voluminous dream narratives that can be elicited from a person if he is awoken and questioned during the night and the relative paucity of normal morning recall. Even people who claim never or seldom to dream produce frequent and lengthy dream narratives when awoken in the Sleep Laboratory. The major problem confronting theories of dream recall is the explanation of this discrepancy.

The standard view taken by experimental scientists (e.g. Hobson (1989)) is that our amnesia for dreams is 'state-dependent' upon the physiology of sleep.

Goodenough (1978) drew a distinction between content-based and state-based theories of dream-recall. He argued that our liability to forget dreams cannot be explained in terms of their content alone. For example, Freud's claim that dreams are forgotten because their latent content is disturbing cannot sufficiently account for what we forget and what we remember. Goodenough argued that some notion of state-dependent amnesia must be employed. He hypothesized that some feature of sleep is responsible for a failure ofconsolidation of memory beyond a few minutes. The Arousal-Retreival model of dream recall advanced by Goodenough & Koulack (1976) proposes that some degree of 'arousal' must interrupt a dream dreamt during the night before it can be successfully retrieved in the morning. The theory supposes that there is a transfer of memory trace from short to long-term storage in order to allow (on the assumption that dreams are dreamt which a pace comparable to waking perception) that we can recall elements of an interrupted dream dreamt a few minutes before awakening . But it explains the subsequent loss of the ability to recall in terms of a state-dependent failure to 'encode' the items newly arrived in long-term storage in such a way that they can be subsequently retrieved. As far as I can judge from my survey of the experimental literature, Goodenough & Koulack's Activation-Arousal model is far and away the most widely accepted explanation of dream amnesia. The standard view taken by researchers seems to be that the only dreams we remember are those which have been interrupted or shortly followed by a momentary awakening.

One way to explain away the discrepancy between our dispositions to tell dreams if awoken during the night and the dreams we can tell upon actually awakening, is to suppose that dreams are an 'artifact of arousal'. What is the distinction between Goodenough & Koulack's Arousal-Retreival hypothesis (that we are only retain an ability to tell a dream if its formation is

interrupted by an arousal) and the hypothesis that dreams are produced by the process of arousal? The arousal-artifact hypothesis needs to be treated with care. For, of course, no one denies that awakening is an important causal condition of telling the dreams we have had. The arousal-artifact hypothesis might imply either the hypothesis that the normal process of awakening is not analogous to the normal process by which a witness is prompted to say what he saw, or it might be taken to imply that there is no normal process of awakening, i.e. that peculiarities of the process of awakening determine the specific content of our awakening narratives. Only on the latter understanding does the arousal-artifact hypothesis promise to dissolve the problem about explaining why so many dreams dreamt during the night are forgotten upon awakening. The supposed discrepancy between dreams dreamt during the night and dreams recalled in the morning would evaporate when it is supposed that people do not dream dreams during sleep.

I have tried here to suggest that the issues surrounding Globot's Hypothesis are still very much alive in scientific work on sleep and dreams. Despite the sinking of the grand ambitions of 1960s psycho-physiology to establish content-relative indexes of dreaming (some flotsam remains in LaBerge's work on lucid dreams), question about the formation, retention and loss of our dispositions to tell dreams remain open to research. On my interpretation of ordinary talk about 'remembering dreams', our commonplace conviction that dreams are dreamt during sleep and remembered or forgotten during sleep, stands to be confirmed or disconfirmed according to the development of scientific research already in progress. This reassures me that the imputation of theoretical assumptions into ordinary talk of 'remembering dreams' has, for the time being at least, an advantage over the gloomy silence recommended by Malcolm.

AFTERTHOUGHT

4. Every few mornings, when I awake with a dream to tell, the thesis defended here appears to me to be utterly incredible, and yet, upon reflection, the same thesis appears to me to be too obvious and trivial to have been worth the labour of argument.

Like many philosophical theses, the conclusion that it is doubtful whether dreams are remembered from sleep appears at one moment to be a laughable absurdity and at the very next moment to be a truth too obvious and unexceptional to warrant much effort in its exposition.

What's all the fuss about? Isn't it obvious that narratives of dreams are a kind of fictitious story, except, of course, that we do not make up the images and words which come to us as if we were remembering events witnessed? Whoever seriously thought that in 'remembering dreams' he is genuinely remembering historical events, things that actually went on in the wee small hours? I might suppose that the story I tell now is one I would have told if awoken earlier in the night. But what could be more reasonable than to question whether this is in fact the case?

Well, every few mornings, isn't there a moment - that moment of awakening with a dream to tell - when I cannot doubt that something is remembered? And, in that moment, does not the thesis defended here appear to me as mad and incredible as you like?

Perhaps. And yet it is true.

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